Elizabeth Nielsen URS 1333 Broadway Suite 800 Oakland, CA 94612 November 14, 2008

#### Dear Elizabeth:

I have enclosed one copy of our report *supplemental* "A Toxicity Evaluation of Ambient Waters and Sediment Collected for the San Joaquin River Recirculation Study" for the ambient water samples collected July 28-31, 2008. The report was revised to reflect a few minnow minor errors, including:

- Revision of the number of sample locations from 8 to 2 (i.e., sampled at 4 times);
- Inclusion of Sticklebacks Unlimited as one of the fish vendors;
- Revision of the toxic units from acute (TUa) to chronic (TUc) for Selenastrum; and
- Inclusion of monthly reference toxicant data.

The results of this testing are summarized below.

Toxicity summary for San Joaquin River Recirculation Study (SJRRS) water and sediment samples.						
	Toxicity Present Relative to Lab Control?					
Sample Station	Selenastrum Growth Test	Ceriodaphnia Survival Test	Fathead Minnow Survival Test	Hyalella azteca Survival Test		
NWDS-001-TOX	no	no	no			
NWDS-002-TOX	no	no	no			
NWDS-003-TOX	Yes	no	no			
NWDS-004-TOX	no	no	no			
NWDS-SED-TOX				no		
SJRDS-001-TOX	no	no	no			
SJRDS-002-TOX	no	no	no			
SJRDS-003-TOX	no	no	no			
SJRDS-004-TOX	no	no	no			

#### Chronic Toxicity of SJRRS Ambient Waters to Selenastrum capricornutum

There was a significant reduction in algal growth in the NWDS-003-TOX ambient water. There were no significant reductions in algal growth in any of the remaining ambient waters.

fax: 707.207.7916

## Acute Toxicity of SJRRS Ambient Waters to Ceriodaphnia dubia

There were no significant reductions in *Ceriodaphnia dubia* survival in any of the ambient waters.

## **Acute Toxicity of SJRRS Ambient Waters to Fathead Minnow**

There were no significant reductions in fish survival in any of the ambient waters.

## Acute Toxicity of SJRRS Sediment to Hyalella azteca

There was no significant reduction in *Hyalella azteca* survival in the NWDS-SED-TOX sediment sample.

If you have any questions regarding the performance and interpretation of these tests, feel free to contact my colleague Dr. Scott Ogle or myself at (707) 207-7760.

Sincerely,

Stephen L. Clark Vice President & Special Projects Director

This testing was performed under Lab Order 13489. The test results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report, and only relate to the sample(s) tested. This report shall not be reproduced, except in full, without the written consent of Pacific EcoRisk.

# Supplemental Report

# A Toxicity Evaluation of Ambient Waters and Sediment Collected for the San Joaquin River Recirculation Study

Samples collected July 28-31, 2008

Submitted To:

URS 1333 Broadway Suite 800 Oakland, CA 94612

Prepared By:

Pacific EcoRisk 2250 Cordelia Road Fairfield, CA 94534

November 2008



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# A Toxicity Evaluation of Ambient Waters and Sediment Collected for the San Joaquin River Recirculation Study

Samples collected July 28-30

# **Table of Contents**

	age
1. INTRODUCTION	. 1
2. SAMPLE COLLECTION AND HANDLING	. 1
3. ACUTE AND CHRONIC TOXICITY TEST PROCEDURES	.2
3.1 Algal Growth Toxicity Testing with Selenastrum capricornutum	
3.1.1 Reference Toxicant Testing of the <i>Selenastrum capricornutum</i>	
3.2 Acute Toxicity Testing with <i>Ceriodaphnia dubia</i>	
3.2.1 Reference Toxicant Testing of the <i>Ceriodaphnia dubia</i>	4
3.3 Acute Toxicity Testing with Larval Fathead Minnows	4
3.3.1 Reference Toxicant Testing of the Fathead Minnows	
3.4 Sediment Toxicity Testing with <i>Hyalella azteca</i>	
3.4.1 Reference Toxicant Testing of the <i>Hyalella azteca</i>	
4. RESULTS	8
4.1 Effects of SJRRS Ambient Waters on Selenastrum capricornutum	8
4.1.1 Effects of NWDS-001-TOX on Selenastrum capricornutum growth	
4.1.2 Effects of NWDS-002-TOX on Selenastrum capricornutum growth	
4.1.3 Effects of NWDS-003-TOX on Selenastrum capricornutum growth	
4.1.4 Effects of NWDS-004-TOX on Selenastrum capricornutum growth	
4.1.5 Effects of SJRDS-001-TOX on Selenastrum capricornutum growth	
4.1.6 Effects of SJRDS-002-TOX on Selenastrum capricornutum growth	
4.1.7 Effects of SJRDS-003-TOX on Selenastrum capricornutum growth	
4.1.8 Effects of SJRDS-004-TOX on Selenastrum capricornutum growth	
4.2 Effects of SJRRS Ambient Waters on <i>Ceriodaphnia dubia</i>	
4.2.1 Effects of NWDS-001-TOX on Ceriodaphnia dubia	
4.2.2 Effects of NWDS-002-TOX on <i>Ceriodaphnia dubia</i>	
4.2.4 Effects of NWDS-003-TOX on Ceriodaphnia dubia	
4.2.5 Effects of SJRDS-001-TOX on Ceriodaphnia dubia	
4.2.6 Effects of SJRDS-002-TOX on Ceriodaphnia dubia	
4.2.7 Effects of SJRDS-003-TOX on Ceriodaphnia dubia	
4.2.8 Effects of SJRDS-004-TOX on <i>Ceriodaphnia dubia</i>	
4.3 Effects of SJRRS Ambient Waters on Fathead Minnows	
4.3.1 Effects of NWDS-001-TOX on Fathead Minnows	8
4.3.2 Effects of NWDS-002-TOX on Fathead Minnows	8
4.3.3 Effects of NWDS-003-TOX on Fathead Minnows	9
4.3.4 Effects of NWDS-004-TOX on Fathead Minnows	
4.3.5 Effects of SJRDS-001-TOX on Fathead Minnows	.0

4.3.6 Effects of SJRDS-002-TOX on Fathead Minnows	
4.3.7 Effects of SJRDS-003-TOX on Fathead Minnows	21
4.3.8 Effects of SJRDS-004-TOX on Fathead Minnows	21
4.4 Effects of SJRRS Sediment on <i>Hyalella azteca</i>	
5. AQUATIC TOXICITY DATA QUALITY CONTROL	
5.1 Maintenance of Acceptable Test Conditions	23
5.2 Negative Control Testing	
5.3 Positive Control Testing	
5.3.1 Reference Toxicant Toxicity to Selenastrum capricornutum	
5.3.2 Reference Toxicant Toxicity to Ceriodaphnia dubia	
5.3.3 Reference Toxicant Toxicity to Fathead Minnows	
5.3.4 Reference Toxicant Toxicity to <i>Hyalella azteca</i>	
5.4 Precision Assessment Testing – Analyses of Field Duplicates	
5.4.1 Toxicity Testing of Field Duplicates with Selenastrum capricornutum	
5.4.2 Toxicity Testing of Field Duplicates with <i>Ceriodaphnia dubia</i>	
5.4.3 Toxicity Testing of Field Duplicates with Fathead Minnows	
6. SUMMARY AND CONCLUSIONS	

# **Appendices**

Appendix A	Chain-of-Custody Records for the Collection and Delivery of the San Joaquin River Recirculation Study Ambient Water Samples
Appendix B	Test Data and Summary of Statistics for the Evaluation of the Chronic Toxicity of the San Joaquin River Recirculation Study Ambient Waters to <i>Selenastrum capricornutum</i>
Appendix C	Test Data and Summary of Statistics for the Evaluation of the Acute Toxicity of the San Joaquin River Recirculation Study Ambient Waters to <i>Ceriodaphnia dubia</i>
Appendix D	Test Data and Summary of Statistics for the Evaluation of the Acute Toxicity of the San Joaquin River Recirculation Study Ambient Waters to Fathead Minnows
Appendix E	Test Data and Summary of Statistics for the Evaluation of the Acute Toxicity of the San Joaquin River Recirculation Study Sediment to <i>Hyalella azteca</i>
Appendix F	Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the <i>Selenastrum capricornutum</i>
Appendix G	Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the <i>Ceriodaphnia dubia</i>
Appendix H	Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the Fathead Minnows
Appendix I	Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the <i>Hyalella azteca</i>
Appendix J	Test Data and Summary of Statistics for the Evaluation of Ambient Water Toxicity to <i>Selenastrum capricornutum</i> – Field Duplicate Toxicity Assessment
Appendix K	Test Data and Summary of Statistics for the Evaluation of Ambient Water Toxicity to <i>Ceriodaphnia dubia</i> – Field Duplicate Toxicity Assessment
Appendix L	Test Data and Summary of Statistics for the Evaluation of Ambient Water Toxicity to Fathead Minnows – Field Duplicate Toxicity Assessment

#### 1. INTRODUCTION

Under contract to URS, Pacific EcoRisk (PER) performed acute and chronic toxicity evaluations of ambient water and sediment samples collected for the San Joaquin River Recirculation Study (SJJRS). The evaluations consist of performing the following US EPA freshwater acute and short-term chronic toxicity tests:

- chronic (96-hr) growth test with the green alga Selenastrum capricornutum;
- acute (96-hr) survival test with the crustacean Ceriodaphnia dubia;
- acute (96-hr) survival test with larval fathead minnows (*Pimephales promelas*); and
- 10-day sediment toxicity test with the amphipod Hyalella azteca.

These toxicity tests were performed on ambient water samples collected on July 29-31, 2008, and on an ambient sediment sample collected on July 28, 2008. This report describes the performance and results of these tests.

#### 2. SAMPLE COLLECTION AND HANDLING

URS staff collected ambient water samples on July 29-31, 2008 from 2 locations at 4 different times, and an ambient sediment sample was collected from one location on July 28, 2008 from within the San Joaquin River watershed (Table 1). The ambient water and sediment samples were transported on ice and under chain-of-custody to the PER laboratory facility in Fairfield. Upon receipt at the testing laboratory, an aliquot of each water sample was removed for analysis of initial water quality characteristics (Table 2). The remainders of the water samples were stored at < 6°C, and were used to initiate testing within 36 hours of collection. The sediment samples were stored at < 6°C, and were used to initiate testing within 14 days of collection. The chain-of-custody records for the collection and delivery of these samples are provided in Appendix A.

Table 1. Collection of the SJRRS ambient water and sediment samples.				
Sample ID	Sample Collection Date			
Sample 1D	Ambient Water	Sediment		
NWDS-001-TOX	7/29/08			
NWDS-002-TOX	7/29/08			
NWDS-003-TOX	7/30/08			
NWDS-003-TOX-DUP*	7/30/08			
NWDS-004-TOX	7/31/08			
NWDS-SED-TOX		7/28/08		
SJRDS-001-TOX	7/29/08			
SJRDS-002-TOX	7/29/08			
SJRDS-003-TOX	7//30/08			
SJRDS-004-TOX	7/31/08			

<sup>\* -</sup> Field duplicate sample.

Table 2. Initial water quality characteristics of the SJRRS ambient water samples.							
Sample ID	Temp (°C)	рН	D.O. (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Conductivity (µS/cm)	Total Ammonia (mg/L N)
NWDS-001-TOX	12.0	7.83	8.0	262	376	1418	<1.0
NWDS-002-TOX	5.0	7.61	8.3	142	347	1327	<1.0
NWDS-003-TOX	5.0	7.60	9.4	107	198	831	<1.0
NWDS-003-TOX-DUP*	5.0	7.58	9.1	107	200	801	<1.0
NWDS-004-TOX	13.4	7.77	8.0	74	118	485	<1.0
SJRDS-001-TOX	18.1	8.00	8.2	168	339	1723	<1.0
SJRDS-002-TOX	5.0	7.67	8.1	168	298	1307	<1.0
SJRDS-003-TOX	5.0	7.69	9.8	105	201	968	<1.0
SJRDS-004-TOX	15.6	7.70	7.9	98	197	960	<1.0

<sup>\* -</sup> Field duplicate sample.

#### 3. ACUTE AND CHRONIC TOXICITY TEST PROCEDURES

The San Joaquin River Recirculation Study ambient waters were tested for toxicity using the following US EPA freshwater acute and short-term chronic toxicity tests:

- chronic (96-hr) growth test with the green alga Selenastrum capricornutum;
- acute (96-hr) survival test with the crustacean Ceriodaphnia dubia;
- acute (96-hr) survival test with larval fathead minnows (*Pimephales promelas*); and
- 10-day survival sediment toxicity test with the amphipod Hyalella azteca.

The methods used in conducting these tests followed the guidelines established by the following EPA manuals:

- "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012);
- "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition" (EPA-821-R-02-013); and
- "Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates" (EPA/600/R-99/064).

#### 3.1 Algal Growth Toxicity Testing with Selenastrum capricornutum

The short-term chronic toxicity algal test consists of exposing *Selenastrum capricornutum* to the ambient waters for ~96 hrs, after which the effects on cell growth are evaluated. The specific procedures used in these tests are described below.

The Lab Control/dilution water for these tests consisted of Arrowhead<sup>®</sup> drinking water. Aliquots of the Control/dilution water and ambient water were filtered (using sterile 0.45  $\mu$ m filters) and

then spiked with nutrients before use in the algal test, as per EPA guidelines. The filtered, nutrient-amended waters were then used to prepare test solutions at test treatment concentrations of 6.25%, 12.5%, 25%, 50%, and 100% ambient water. "New" water quality characteristics (pH, dissolved oxygen [D.O.], and conductivity) were measured on these test solutions prior to their use in the test.

There were 4 replicates at each test treatment, each replicate consisting of a 250-mL glass Erlenmeyer flask containing 100 mL of test solution; an additional replicate was established at each test treatment in order to monitor the test solution water quality characteristics during the test. Each flask was inoculated to an initial algal cell density of 10,000 cells/mL from a laboratory culture of *Selenastrum* that is maintained in log growth phase. These flasks were loosely-capped and randomly positioned within a temperature-controlled room at 25°C, under continuous cool-white fluorescent illumination. Each replicate flask was gently shaken a minimum of 3 times daily.

Each day, the temperature and pH were determined for the designated "water quality" replicate at each treatment.

After 96 (±2) hrs exposure, the algal cell density in each replicate flask was determined by spectrophotometric analysis. Algal cell density was also determined microscopically using a hemacytometer for multiple treatments that exhibited resident algae species in the samples at test termination (i.e., in addition to *Selenastrum*). The resulting cell density data were analyzed to evaluate any impairment of algal growth caused by the ambient waters; all statistical analyses were performed using the CETIS® statistical software (Version 1.6.5A, TidePool Scientific, McKinleyville, CA).

#### 3.1.1 Reference Toxicant Testing of the Selenastrum capricornutum

In order to assess the sensitivity of the *Selenastrum* to toxic stress, a reference toxicant test was performed. The reference toxicant test was performed similarly to the ambient water tests except that test solutions consisted of Lab Control water spiked with NaCl at concentrations of 0.5, 1, 2, 4, and 8 g/L. The resulting test response data were statistically analyzed to determine key doseresponse point estimates (e.g., IC50); all statistical analyses were performed using the CETIS® software. These response endpoints were then compared to the typical response range established by the mean  $\pm 2 \text{ SD}$  of the point estimates generated by the most recent previous reference toxicant tests performed by this lab.

#### 3.2 Acute Toxicity Testing with Ceriodaphnia dubia

The acute *Ceriodaphnia* test consists of exposing neonate *Ceriodaphnia* to the ambient water for ~96 hrs, after which effects on survival are evaluated. The specific procedures used in these tests are described below.

The Lab Control/dilution water for these tests consisted of a mixture of conditioned commercial spring waters (80% Arrowhead®:20% Evian®). The Control/dilution water and the ambient water samples were used to prepare test solutions at test treatment concentrations of 6.25%, 12.5%, 25%, 50%, and 100% ambient water. New water quality characteristics (pH, D.O., and conductivity) were measured on these test treatment solutions prior to use in the tests.

There were 4 replicates for each test treatment, each replicate consisting of 15 mL of test solution in a 30-mL plastic cup. The acute tests were initiated by allocating 5 neonate (<24 hrs old) *Ceriodaphnia*, from in-house laboratory cultures, into each replicate cup. The replicate cups were placed in a temperature-controlled room at 20°C, under cool-white fluorescent lighting on a 16L:8D photoperiod.

Routine water quality characteristics (pH, D.O., and conductivity) of the test waters were measured each day and at the end of the test. On Day 2 of the 4-day test, fresh test solutions and test replicates were prepared and characterized as before. At this time, small amounts of the green alga *Selenastrum capricornutum* and yeast-Cerophyll®-trout (YCT) chow food mixture were added to each original test replicate to provide food for the test organisms. Then, after ~48 hrs exposure, each of the test organisms was carefully transferred into a fresh replicate cup containing fresh test solution so as to allow a minimum of 50% renewal of test solution.

After 96 ( $\pm 2$ ) hrs, the tests were terminated and the number of surviving organisms in each replicate was determined. The resulting survival data were analyzed to evaluate any impairment due to the ambient waters; all statistical analyses were performed using the CETIS® statistical software.

## 3.2.1 Reference Toxicant Testing of the Ceriodaphnia dubia

In order to assess the sensitivity of the *Ceriodaphnia* test organisms to toxic stress, a reference toxicant test was performed. The reference toxicant test was performed similarly to the ambient water tests, except that test solutions consisted of the Lab Control spring water mixture spiked with NaCl at concentrations of 250, 500, 1000, 1500 and 2000 mg/L. The resulting test response data were statistically analyzed to determine key dose-response point estimates (e.g., IC50); all statistical analyses were performed using the CETIS® software. These response endpoints were then compared to the typical response range established by the mean ± 2 SD of the point estimates generated by the 20 most-recent previous reference toxicant tests performed by this lab.

#### 3.3 Acute Toxicity Testing with Larval Fathead Minnows

The acute fathead minnow test consists of exposing larval fish to the ambient water for ~96 hrs, after which effects on survival are evaluated. The specific procedures used in these tests are described below.

The fathead minnows used in these tests were obtained from two commercial supplier (Sticklebacks Unlimited, Vallejo, CA and Aquatic Biosystems, Fort Collins, CO). These fish were maintained at 20°C in aerated aquaria containing EPA synthetic moderately-hard water prior to their use in this test. During this pre-test period, the fish were fed brine shrimp nauplii *ad libitum*.

The Lab Control/dilution water for these tests consisted of EPA synthetic "moderately-hard" water, prepared by addition of reagent grade chemicals to RO/DI water. The Control/dilution water and the ambient water samples were used to prepare test solutions at test treatment concentrations of 6.25%, 12.5%, 25%, 50%, and 100% ambient water. Water quality characteristics (pH, D.O., and conductivity) were determined for each test solution prior to the start of the tests.

There were 4 replicates for each test treatment, each replicate consisting of 400 mL of test media in a 600-mL glass beaker. The tests were initiated by randomly allocating 10 larval fathead minnows into each replicate beaker. The beakers were placed in a temperature-controlled room at 20°C under a 16L:8D photoperiod.

Each replicate container was examined daily, and the number of live fish in each was recorded at this time. Routine water quality characteristics (pH, D.O., and conductivity) of the treatment waters were measured and recorded for one randomly-selected replicate per treatment each day.

On Day 2 of the 4-day test, fresh test solutions were prepared and characterized as before. At this time, the test organisms were fed brine shrimp nauplii. The number of live fish in each replicate was then determined and then approximately 80% of the test media in each beaker was carefully poured out and replaced with fresh test solution. The test beakers were then returned to the room. "Old" water quality characteristics (pH, D.O., and conductivity) were measured on the test solution that had been discarded from one randomly-selected replicate at each test treatment.

After 96 ( $\pm$ 2) hrs, the tests were terminated and the number of surviving organisms was determined. The resulting survival data were analyzed to evaluate any impairment of survival due to the ambient waters; all statistical analyses were performed using the CETIS® statistical software.

#### **3.3.1** Reference Toxicant Testing of the Fathead Minnows

In order to assess the sensitivity of the fathead minnow test organisms to toxic stress, a reference toxicant test was performed. The reference toxicant test was performed similarly to the ambient water tests, except that test solutions consisted of the Lab Control water spiked with NaCl at concentrations of 0.75, 1.5, 3, 6, and 9 g/L. The resulting test response data were statistically analyzed to determine key dose-response point estimates (e.g., IC50); all statistical analyses were performed using the CETIS® software. These response endpoints were then compared to the

typical response range established by the mean  $\pm 2$  SD of the point estimates generated by the 20 most-recent previous reference toxicant tests performed by this lab.

#### 3.4 Sediment Toxicity Testing with Hyalella azteca

The freshwater sediment toxicity test with *Hyalella azteca* consists of exposing the amphipods to the sediment for 10 days, after which effects on survival are evaluated; note that the growth endpoint was excluded at the request of the client. The specific procedures used in this test are described below.

The *Hyalella azteca* used in this test were obtained from a commercial supplier (Aquatic Biosystems, Fort Collins, CO); upon receipt at the lab, the amphipods were held in tanks of EPA synthetic moderately-hard water (modified for use with *Hyalella* as per the EPA test guidelines) at 23°C, and were fed YCT food.

The site sediment was tested at the 100% concentration only. The Lab Control treatment sediment consisted of a composite of reference site sediments that has been maintained under culture at the PER lab for >3 months. There were 8 replicates for each test treatment. Each replicate container consisted of a 300-mL tall-form glass beaker with a 3-cm ribbon of 540- $\mu$ m mesh NITEX attached to the top of the beaker with silicone sealant. Each of the sediment samples was re-homogenized immediately prior to introduction of the sediments into the test replicates. Approximately 100 mL of sediment was loaded into each test replicate container. Each test replicate was then carefully filled with clean overlying water (EPA synthetic moderately-hard water, modified for use with *Hyalella* as per the EPA test guidelines). The replicates with sediments and clean overlying water were established ~24 hrs prior to the introduction of the amphipods, and were placed in a temperature-controlled room at 23°C under a 16L:8D photoperiod.

After this initial 24 hr period, the overlying water in each replicate was flushed with one volume (approximately 150 mL) of fresh overlying water. A small aliquot of the renewed overlying water in each of the 8 replicates per treatment was then collected and composited for measurement of "initial" water quality characteristics (pH, dissolved oxygen [D.O.], conductivity, alkalinity, hardness, and total ammonia). The tests were initiated with the random allocation of ten 13 day-old amphipods into each replicate, followed by the addition of 1.0 mL of YCT food. The test replicates were then returned to the temperature-controlled room.

Each day, for the following 9 days, the test replicates from each replicate were examined for the presence of any dead amphipods. A small aliquot of the overlying water in each of the 8 replicates was then collected and composited as before for measurement of "old" D.O., after which each replicate was flushed with one volume of fresh water. Another small aliquot of the overlying water in each of the 8 replicates was then collected and composited as before for measurement of "new" D.O., after which each replicate was fed 1.0 mL of YCT.

After 10 days exposure, the replicate containers were pulled from the temperature-controlled room, and an aliquot of overlying water was collected from each replicate and composited for analysis of the "final" water quality characteristics. The sediments in each replicate container were then carefully washed out and sieved using a #40 (425- $\mu$ m mesh) stainless steel sieve, and the number of surviving amphipods determined. The resulting survival data were analyzed to evaluate any impairments due to the sediments; all statistical analyses were performed using CETIS® statistical software.

#### 3.4.1 Reference Toxicant Testing of the Hyalella azteca

In order to assess the sensitivity of the *Hyalella* test organisms to toxic stress, a reference toxicant test was performed. The reference toxicant test was performed similarly to the ambient water tests, except that test solutions consisted of the Lab Control water spiked with KCl at concentrations of 0.1, 0.2, 0.4, 0.8, and 1.6 g/L. The resulting test response data were statistically analyzed to determine key dose-response point estimates (e.g., IC50); all statistical analyses were performed using the CETIS® software. These response endpoints were then compared to the typical response range established by the mean  $\pm 2$  SD of the point estimates generated by the 20 most-recent previous reference toxicant tests performed by this lab.

#### 4. RESULTS

## 4.1 Effects of SJRRS Ambient Waters on Selenastrum capricornutum

The results of these tests are summarized below in Tables 3 through 13. The test data and summary of statistical analyses for these tests are presented in Appendix B.

## 4.1.1 Effects of NWDS-001-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample.

Table 3. Effects of NWDS-001-TOX on Selenastrum capricornutum growth.			
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )		
Lab Control	2.47		
6.25%	3.11		
12.5%	3.15		
25%	3.81		
50%	4.32		
100%	4.46		
Summary of Statistics			
NOEC =	100% ambient water		
IC50 =	>100% ambient water		
TUc (100/IC50) =	<1.0 TUc		

## 4.1.2 Effects of NWDS-002-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample when a spectrophotometer was used to determine cell density. However, a microscopic examination of the ambient water test replicates revealed the presence of other freshwater algal species (i.e., resident species, which were not present in the Lab Control). The presence of resident algal species suggests a quality control problem occurred during sample filtration. There was a significant reduction in *Selenastrum* growth when a microscopic evaluation of cell density was performed. However, the reduction in *Selenastrum* growth could be due to the presence of resident algae species (i.e., competition for nutrients). Therefore, the sample was retested to reevaluate toxicity and the results are summarized in Table 5. There were no significant reductions in algal growth in the retest of this ambient water sample. A microscopic examination of the test replicates confirmed that resident algal species were not present.

Table 4. Effects of NWDS-002-TOX on Selenastrum capricornutum growth.					
Test Treatment	Mean Algal Cell	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )			
Test Treatment	Spectrophotometer	Microscope			
Lab Control	2.74	2.59			
6.25%	2.64	1.53			
12.5%	1.57	0.763			
25%	2.09	0.868*			
50%	2.23	0.329*			
100%	1.41	0.053*			
Summary of Statistics					
NOEC =	100% ambient water	12.5% ambient water			
IC50 =	>100% ambient water	8.33% ambient water			
TUc (100/IC50) =	<1.0 TUc 12.0 TUc				

<sup>\*</sup> The test response at this treatment was significantly less than the Control treatment response (p < 0.05).

Table 5. Retest of effects of NWDS-002-TOX on Selenastrum capricornutum growth.			
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )		
Lab Control	2.98		
6.25%	3.81		
12.5%	4.06		
25%	4.41		
50%	4.72		
100%	4.26		
Summary of Statistics			
NOEC =	100% ambient water		
IC50 =	>100% ambient water		
TUc (100/IC50) =	<1.0 TUc		

## 4.1.3 Effects of NWDS-003-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample when a spectrophotometer was used to determine cell density. However, a microscopic examination of the ambient water test replicates revealed the presence of other freshwater algal species (i.e., resident species, which were not present in the Lab Control). The presence of resident algal species suggests a quality control problem occurred during sample filtration. There was a significant reduction in *Selenastrum* growth when a microscopic evaluation of cell density was performed. However, the reduction in *Selenastrum* growth could be due to the presence of resident algae species (i.e., competition for nutrients). The sample was retested to re-evaluate toxicity and the results are summarized in Table 7. There was a significant reduction in algal growth in 100% treatment of the retest of this ambient water sample. A microscopic examination of the test replicates confirmed that resident algal species were not present.

Table 6. Effects of NWDS-003-TOX on Selenastrum capricornutum growth.				
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )			
Test Treatment	Spectrophotometer	Microscope		
Lab Control	2.41	3.61		
6.25%	3.12	3.49		
12.5%	2.94	3.13		
25%	1.53	0.608*		
50%	1.53	0.718*		
100%	1.82	0.850*		
Summary of Statistics				
NOEC =	100% ambient water	12.5% ambient water		
IC50 =	>100% ambient water	19.4% ambient water		
TUc (100/IC50) =	<1.0 TUc 5.2 TUc			

<sup>\*</sup> The test response at this treatment was significantly less than the Control treatment response (p < 0.05).

Table 7. Retest of effects of NWDS-003-TOX on Selenastrum capricornutum growth.			
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )		
Lab Control	2.67		
6.25%	2.02		
12.5%	1.51		
25%	1.94		
50%	2.24		
100%	1.75*		
Summary of Statistics			
NOEC =	50% ambient water		
IC50 =	>100% ambient water		
TUc (100/IC50) =	<1.0 TUc		

<sup>\*</sup> The test response at this treatment was significantly less than the Control treatment response (p < 0.05).

## 4.1.4 Effects of NWDS-004-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample.

Table 8. Effects of NWDS-004-TOX on Selenastrum capricornutum growth.			
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )		
Lab Control	2.57		
6.25%	3.00		
12.5%	3.29		
25%	3.23		
50%	3.42		
100%	3.45		
Summary of Statistics			
NOEC =	100% ambient water		
IC50 =	>100% ambient water		
TUc (100/IC50) =	<1.0 TUc		

## 4.1.5 Effects of SJRDS-001-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample.

Table 9. Effects of SJRDS-001-TOX on Selenastrum capricornutum growth.		
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )	
Lab Control	2.16	
6.25%	2.81	
12.5%	3.09	
25%	3.16	
50%	3.23	
100%	3.60	
Summary of Statistics		
NOEC =	100% ambient water	
IC50 =	>100% ambient water	
TUc (100/IC50) =	<1.0 TUc	

#### 4.1.6 Effects of SJRDS-002-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample when a spectrophotometer was used to determine cell density. However, a microscopic examination of the ambient water test replicates revealed the presence of other freshwater algal species (i.e., resident species, which were not present in the Lab Control). The presence of resident algal species suggests a quality control problem occurred during sample filtration. There was a significant reduction in *Selenastrum* growth when a microscopic evaluation of cell density was performed. However, the reduction in *Selenastrum* growth could be due to the presence of resident algae species (i.e., competition for nutrients). Therefore, the sample was retested to reevaluate toxicity and the results are summarized in Table 11. There were no significant reductions in algal growth in the retest of this ambient water sample. A microscopic examination of the test replicates confirmed that resident algal species were not present.

Table 10. Effects of SJRDS-002-TOX on Selenastrum capricornutum growth.		
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )	
Test Treatment	Spectrophotometer	Microscope
Lab Control	2.35	2.29
6.25%	2.71	1.97
12.5%	2.43	1.57
25%	3.09	1.69
50%	2.53	1.04*
100%	3.19	1.10*
Summary of Statistics		
NOEC =	100% ambient water	25% ambient water
IC50 =	>100% ambient water	46.8% ambient water
TUc (100/IC50) =	<1.0 TUc	2.1 TUc

<sup>\*</sup> The test response at this treatment was significantly less than the Control treatment response (p < 0.05).

Table 11. Retest of effects of SJRDS-002-TOX on Selenastrum capricornutum growth.		
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )	
Lab Control	3.36	
6.25%	4.14	
12.5%	4.11	
25%	4.36	
50%	4.79	
100%	4.25	
Summary of Statistics		
NOEC =	100% ambient water	
IC50 =	>100% ambient water	
TUc (100/IC50) =	<1.0 TUc	

## 4.1.7 Effects of SJRDS-003-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample.

Table 12. Effects of SJRDS-003-TOX on Selenastrum capricornutum growth.		
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )	
Lab Control	1.80	
6.25%	2.44	
12.5%	2.90	
25%	3.60	
50%	4.06	
100%	4.73	
Summary of Statistics		
NOEC =	100% ambient water	
IC50 =	>100% ambient water	
TUc (100/IC50) =	<1.0 TUc	

## 4.1.8 Effects of SJRDS-004-TOX on Selenastrum capricornutum growth

There were no significant reductions in algal growth in this ambient water sample.

Table 13. Effects of SJRDS-004-TOX on Selenastrum capricornutum growth.		
Test Treatment	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )	
Lab Control	2.52	
6.25%	3.07	
12.5%	3.29	
25%	3.20	
50%	3.17	
100%	3.25	
Summary of Statistics		
NOEC =	100% ambient water	
IC50 =	>100% ambient water	
TUc (100/IC50) =	<1.0 TUc	

## 4.2 Effects of SJRRS Ambient Waters on Ceriodaphnia dubia

The results of these tests are summarized below in Tables 14 through 21. The test data and summary of statistical analyses for these tests are presented in Appendix C.

## 4.2.1 Effects of NWDS-001-TOX on Ceriodaphnia dubia

There were no significant reductions in *Ceriodaphnia dubia* survival in this ambient water sample.

Table 14. Effects of NWDS-001-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	100	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.2 Effects of NWDS-002-TOX on Ceriodaphnia dubia

Table 15. Effects of NWDS-002-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	95	
12.5%	100	
25%	95	
50%	80	
100%	95	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.3 Effects of NWDS-003-TOX on Ceriodaphnia dubia

There were no significant reductions in *Ceriodaphnia dubia* survival in this ambient water sample.

Table 16. Effects of NWDS-003-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	100	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.4 Effects of NWDS-004-TOX on Ceriodaphnia dubia

Table 17. Effects of NWDS-004-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	95	
50%	100	
100%	95	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.5 Effects of SJRDS-001-TOX on Ceriodaphnia dubia

There were no significant reductions in *Ceriodaphnia dubia* survival in this ambient water sample.

Table 18. Effects of SJRDS-001-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	100	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.6 Effects of SJRDS-002-TOX on Ceriodaphnia dubia

Table 19. Effects of SJRDS-002-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	90	
25%	100	
50%	90	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.7 Effects of SJRDS-003-TOX on Ceriodaphnia dubia

There were no significant reductions in *Ceriodaphnia dubia* survival in this ambient water sample.

Table 20. Effects of SJRDS-003-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	100	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.2.8 Effects of SJRDS-004-TOX on Ceriodaphnia dubia

Table 21. Effects of SJRDS-004-TOX on Ceriodaphnia dubia survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	100	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.3 Effects of SJRRS Ambient Waters on Fathead Minnows

The results of these tests are summarized below in Tables 22 through 29. The test data and summary of statistical analyses for these tests are presented in Appendix D.

## 4.3.1 Effects of NWDS-001-TOX on Fathead Minnows

There were no significant reductions in fathead minnow survival in this ambient water sample.

Table 22. Effects of NWDS-001-TOX on fathead minnow survival.		
Test Treatment	Mean % Survival	
Lab Control	97.5	
6.25%	100	
12.5%	100	
25%	97.5	
50%	95	
100%	97.5	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

#### 4.3.2 Effects of NWDS-002-TOX on Fathead Minnows

Table 23. Effects of NWDS-002-TOX on fathead minnow survival.			
Test Treatment	Mean % Survival		
Lab Control	100		
6.25%	97.5		
12.5%	100		
25%	97.5		
50%	100		
100%	100		
Summary of Statistics			
NOEC =	100% ambient water		
EC50 =	>100% ambient water		
TUa (100/EC50) =	<1.0 TUa		

## 4.3.3 Effects of NWDS-003-TOX on Fathead Minnows

There were no significant reductions in fathead minnow survival in this ambient water sample.

Table 24. Effects of NWDS-003-TOX on fathead minnow survival.			
Test Treatment	Mean % Survival		
Lab Control	100		
6.25%	97.5		
12.5%	100		
25%	100		
50%	100		
100%	100		
Summary of Statistics			
NOEC =	100% ambient water		
EC50 =	>100% ambient water		
TUa (100/EC50) =	<1.0 TUa		

## 4.3.4 Effects of NWDS-004-TOX on Fathead Minnows

Table 25. Effects of NWDS-004-TOX on fathead minnow survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	97.5	
12.5%	100	
25%	100	
50%	100	
100%	97.5	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.3.5 Effects of SJRDS-001-TOX on Fathead Minnows

There were no significant reductions in fathead minnow survival in this ambient water sample.

Table 26. Effects of SJRDS-001-TOX on fathead minnow survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	92.5	
50%	97.5	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.3.6 Effects of SJRDS-002-TOX on Fathead Minnows

Table 27. Effects of SJRDS-002-TOX on fathead minnow survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	100	
12.5%	100	
25%	97.5	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.3.7 Effects of SJRDS-003-TOX on Fathead Minnows

There were no significant reductions in fathead minnow survival in this ambient water sample.

Table 28. Effects of SJRDS-003-TOX on fathead minnow survival.			
Test Treatment	Mean % Survival		
Lab Control	100		
6.25%	97.5		
12.5%	100		
25%	100		
50%	100		
100%	100		
Summary of Statistics			
NOEC =	100% ambient water		
EC50 =	>100% ambient water		
TUa (100/EC50) =	<1.0 TUa		

## 4.3.8 Effects of SJRDS-004-TOX on Fathead Minnows

Table 29. Effects of SJRDS-004-TOX on fathead minnow survival.		
Test Treatment	Mean % Survival	
Lab Control	100	
6.25%	97.5	
12.5%	97.5	
25%	100	
50%	100	
100%	100	
Summary of Statistics		
NOEC =	100% ambient water	
EC50 =	>100% ambient water	
TUa (100/EC50) =	<1.0 TUa	

## 4.4 Effects of SJRRS Sediment on Hyalella azteca

The results of this test are summarized below in Table 30. There no significant reductions in *Hyalella azteca* survival in the sediment sample.

The test data and summary of statistical analyses for this test are presented in Appendix E.

Table 30. Effects of NWDS-SED-TOX on Hyalella azteca survival.		
Test Treatment / Sample ID Mean % Survival		
Lab Control	96.3	
NWDS-SED-TOX	97.5	

#### 5. AQUATIC TOXICITY DATA QUALITY CONTROL

Three QC measures were assessed during the toxicity testing:

- Maintenance of acceptable test conditions;
- Negative Control testing; and
- Precision assessment testing measured via analyses of field duplicates.

## **5.1** Maintenance of Acceptable Test Conditions

Test conditions (pH, D.O., temperature, etc.) were all within acceptable limits for these tests. All analyses were performed according to laboratory Standard Operating Procedures.

Resident organisms (e.g. flagellates and ciliates) were observed in the original tests of the following samples: NWDS-002, NWDS-003, NWDS-003 Dup, and SJRDS-002. The presence of resident algal species suggests a quality control problem occurred during sample filtration; based on how the work area is set up for algae filtration, there is no possibility of unfiltered sample dripping into the filtered solution. These samples were retested and no resident organisms were found in the filtered ambient samples during the re-tests.

Based on these results, it was hypothesized that the faulty filters may be the cause of the presence of resident organisms in the filtered samples. A filter comparison study was performed to determine if the high-capacity GeoTech groundwater cartridge filters used at PER for filtering ambient water samples for algae testing were compromised. The study included a comparison of the NWDS-003 sample filtered with GeoTech, Millipore Stericup disposable, and Pall AcroPak 200 filters. As was the case for the re-tests, there were no resident species in any of the treatments. Although no definitive evidence was obtained as to why resident organisms were in the filtered samples, PER still believes that a batch of structurally faulty filters were obtained from GeoTech.

#### **5.2 Negative Control Testing**

All Lab Control treatments were within acceptable limits.

#### **5.3** Positive Control Testing

The results for the reference toxicant tests of the test organisms are summarized below.

#### 5.3.1 Reference Toxicant Toxicity to Selenastrum capricornutum

The results of this test are summarized below in Table 31. There was a mean of 2,870,000 cells/mL in the Lab Control treatment. The IC50 was 2.06 gm/L NaCl. These reference toxicant test results are consistent with previous *Selenastrum* reference toxicant tests, indicating that these organisms were responding to toxic stress in a typical fashion. The test data and summary of statistical analyses for this test are presented in Appendix F.

Table 31. Reference toxicant testing: effects of NaCl on Selenastrum capricornutum growth.		
NaCl Treatment (gm/L) Mean Algal Cell Density (cells/n		
Lab Control	2.87	
0.5	2.62	
1	2.14*	
2	1.48*	
4	0.119*	
8	0.046*	
Summary of Statistics		
IC50 = 2.06 gm/L NaCl		

<sup>\* –</sup> Significantly less than the Lab Control treatment response (p < 0.05).

## 5.3.2 Reference Toxicant Toxicity to Ceriodaphnia dubia

The results of this test are summarized below in Table 32. There was 100% survival and a mean of 28.7 offspring at the Lab Control treatment. The survival EC50 was 1670 mg/L NaCl, and the reproduction IC50 was 1260 mg/L NaCl. These reference toxicant test results are consistent with previous *Ceriodaphnia* reference toxicant tests, indicating that these organisms were responding to toxic stress in a typical fashion.

The test data and summary of statistical analyses for this test are presented in Appendix G.

Table 32. Reference toxicant testing: effects of sodium chloride on <i>Ceriodaphnia dubia</i> .		
NaCl Treatment (mg/L)	% Survival	Reproduction (# neonates/female)
Lab Control	100	28.7
250	100	29.0
500	100	26.9
1000	100	20.7*
1500	90	8.8*
2000	0*	0
Summary of Statistics		
Survival EC50 =	1670 mg/L NaCl	
Reproduction IC50 =		1260 mg/L NaCl

<sup>\* –</sup> Significantly less than the Lab Control treatment response (p < 0.05).

#### **5.3.3** Reference Toxicant Toxicity to Fathead Minnows

The results of this test are summarized below in Table 33. There was 97.5% survival and a mean biomass value of 0.45 mg at the Lab Control treatment. The survival EC50 value was 4.04 g/L NaCl and the growth IC50 was 2.6 g/L NaCl. These reference toxicant test results are consistent with the database of similar reference toxicant tests previously performed in our laboratory.

The test data and summary of statistical analyses for this test are presented in Appendix H.

Table 33. Reference toxicant testing: effects of sodium chloride on fathead minnows.							
NaCl Treatment (g/L)	Mean Fish Biomass Value (mg)						
Lab Control	97.5	0.45					
0.75	100	0.44					
1.5	100	0.40					
3	67.5*	0.16					
6	27.5*	0.09					
9	0*	0					
Summary of Statistics							
Survival EC50 or Reproduction IC50 =	4.04 g/L NaCl	2.6 g/L NaCl					

<sup>\* –</sup> Significantly less than the Lab Control treatment response (p < 0.05).

#### 5.3.4 Reference Toxicant Toxicity to Hyalella azteca

The results of this test are summarized below in Table 34. There was 100% survival at the Lab Control treatment. The survival EC50 was 0.53 g/L KCl. These reference toxicant test results are consistent with previous *Hyalella* reference toxicant tests, indicating that these organisms were responding to toxic stress in a typical fashion.

The test data and summary of statistical analyses for this test are presented in Appendix I.

Table 34. Reference toxicant testing: effects of potassium chloride on <i>Hyalella azteca</i> .					
KCl Treatment (gm/L)	Mean % Survival				
Lab Control	100				
0.1	100				
0.2	100				
0.4	50*				
0.8	40*				
1.6	0*				
Summary of Statistics					
Survival EC50 =	0.53 g/L KCl				

<sup>\* –</sup> Significantly less than the Lab Control treatment response (p < 0.05).

#### **5.4** Precision Assessment Testing – Analyses of Field Duplicates

#### 5.4.1 Toxicity Testing of Field Duplicates with Selenastrum capricornutum

The results of the comparative testing of field duplicates with *Selenastrum capricornutum* are presented in Table 35. The relative percent differences (RPDs) for the algal growth responses were within acceptable limits. The test data and summary of statistical analyses for these tests are presented in Appendix J.

Table 35. Toxicity testing of field duplicate samples with Selenastrum capricornutum.							
Treatment/Sample ID	Mean Algal Cell Density (cells/mL x 10 <sup>6</sup> )						
NWDS-003-TOX	1.82						
NWDS-003-TOX-DUP	2.01						
RPD =	9.9%						

## 5.4.2 Toxicity Testing of Field Duplicates with Ceriodaphnia dubia

The results of the comparative testing of field duplicates with *Ceriodaphnia dubia* are presented in Table 36. The RPDs for the mean survival responses were within the acceptable limits. The test data and summary of statistical analyses for these tests are presented in Appendix K.

Table 36. Toxicity testing of field duplicate samples with <i>Ceriodaphnia dubia</i> .							
Treatment/Sample ID	Mean % Survival						
NWDS-003-TOX	100						
NWDS-003-TOX-DUP	100						
RPD =	0%						

## **5.4.3** Toxicity Testing of Field Duplicates with Fathead Minnows

The results of the comparative testing of field duplicates with fathead minnows are presented in Table 37. The RPDs for the mean survival responses were within acceptable limits. The test data and summary of statistical analyses for these tests are presented in Appendix L.

Table 37. Toxicity testing of field duplicate samples with fathead minnows.					
Treatment	Mean % Survival				
NWDS-003-TOX	100				
NWDS-003-TOX-DUP	92.5				
RPD =	07.8%				

#### 6. SUMMARY AND CONCLUSIONS

The results of the toxicity testing of San Joaquin River Recirculation Study ambient waters and sediment are summarized below.

Toxicity summary for San Joaquin River Recirculation Study water and sediment samples.							
	Toxicity Present Relative to Lab Control?						
		Ceriodaphnia	Fathead Minnow	Hyalella azteca			
Growth Test Survival Test			Survival Test	Survival Test			
NWDS-001-TOX	no	no	no				
NWDS-002-TOX	no	no	no				
NWDS-003-TOX	Yes	no	no				
NWDS-004-TOX	no	no	no				
NWDS-SED-TOX				no			
SJRDS-001-TOX	no	no	no				
SJRDS-002-TOX	no	no	no				
SJRDS-003-TOX	no	no	no				
SJRDS-004-TOX	no	no	no				

#### Chronic Toxicity of SJRRS Ambient Waters to Selenastrum capricornutum

There was a significant reduction in algal growth in the NWDS-003-TOX ambient water. There were no significant reductions in algal growth in any of the remaining ambient waters.

## Acute Toxicity of SJRRS Ambient Waters to Ceriodaphnia dubia

There were no significant reductions in *Ceriodaphnia dubia* survival in any of the ambient waters.

#### Acute Toxicity of SJRRS Ambient Waters to Fathead Minnow

There were no significant reductions in fish survival in any of the ambient waters.

### Acute Toxicity of SJRRS Sediment to Hyalella azteca

There was no significant reduction in *Hyalella azteca* survival in the NWDS-SED-TOX sediment sample.

# Appendix A

Chain-of-Custody Records for the Collection and Delivery of the San Joaquin River Recirculation Study Ambient Water and Sediment Samples

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5:00		1	*	EN 7/	19/08				
8:00	Ψ	Ψ, Ψ	X	EN 71	29/08				
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	DATE	DATE TIME  7/29/2 10:23  7-29-08 1245	DATE TIME RECEIVED BY: (SIG	DATE TIME RECEIVED BY: (SIGNATUR 7/29/28 1245 M.M.Morido	DATE TIME RECEIVED BY: (SIGNATURE)  7-29-08 1245 M. Muldowider	DATE   TIME   RECEIVED BY: (SIGNATURE)   Told   T	DATE   TIME   RECEIVED BY: (SIGNATURE)	DATE   TIME   RECEIVED BY: (SIGNATURE)   DATE   7-24-08   1245	DATE   TIME   RECEIVED BY: (SIGNATURE)   DATE   TIME   T

			C	HAIN O	F CUSTODY REC	ORD							/
PACIFIC ECORISK 835 Arnold Drive, Suite 104 Martinez, CA 94553 (925)313-8080 fax: (925)313-8089			ackland	CA	Cuy Stc 800. 94612 En Tel: 510 893-360	<b>-</b> , -	1. 0	183 1833 1 12kland	CA	94	612	20	
PROJECT:	× 2 2	7					ANA	LYSES	REQU	ESTED			
DMC 18600161,10  SAMPLE IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	GRAB/ COMP.	# CONTAINERS/TYPE	Action						REMA	ARKS
XOT-100-20WN	07-29	0640	W	G	51 1 gal	X							
NWDS-002-TOX EN	7/29/05	2		Ì	1/								
NOW DO TOX EN	1/24				1								
NUIDS-COY-TOX EN 7/2	7				1								
7		_			1			_ _					
NOOS-DUR-003 TOX E	V'7/29		<b>V</b>		,				_				
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PACIFIC ECORISK 835 Arnold Drive, Suite 104 Martinez, CA 94553 (925)313-8080 fax: (925)313-8089 707 207~7760	ì.		IS TO: URS 1333 ( Oakland Elizabeti	Broadw CA h Nebe	Gy St 94612 1 Tel: 5	c 893~360		LTO: UPS 1333 Cakla AIP	Proces	dway	Stc 80 4612 Tel:	0	
PROJECT:  DMC  SAMPLE IDENTIFICATION	DATE	TIME	SAMPLE	GRAB/	#CONTA	JNERS/TYPE	Rute	ANALYSES	REQU	ESTED		REMA	ARKS
STROS-002-TOX STROS-003-TOX BATERS 1004-70X	7	2338 035	<del>                                     </del>	G V	51	I gal	X X						
METHOD OF SHIPMENT: F	ED X		UPS		HAND _		OTHER	CODES	:				
RELINQUISHED BY: (SIGNATUR  Solua Esparola  White - Return w/sample	. 157		DATE 7/30 7/30	TIME [0-30]  3/5	4. Kh	ED BY: (SIG	/4				DATE 7/30/8		PAGE#

			C	HAIN O	F CUSTODY REC	ORD						
PACIFIC ECORISK 835 Arnold Drive, Suite 104 Martinez, CA 94553 (925)313-8080 fax: (925)313-8089 707 - 207 - 7760	- <b>(</b>		TS TO: URS 1333 Br Ockland Elizabet	candwa , A L Niels	y Str. 200 94612 entel: 510 893-360		L TO: U25 13∞ Ocklan A/P	nroade	24612	te ky	)	
PROJECT:							NALYSE					&
SAMPLE IDENTIFICATION	DATE	TIME	SAMPLE MATRIX	GRAB/ COMP.	#CONTAINERS/TYPE	Acute 76x					REMA	ARKS
100 25 glu			w	G	5/ 1 gal							
100 VIOV					1							
MUDICOUP JOX	OCHC				/			<del> </del> -				
NWDS-004-TOX	07/31/08	0640		<del>                                     </del>	,	X	+					
CTORC ON TOX	01/31/00	0010	<b>—</b>	+-	<b>,</b>	^	+					
SJRDS-004-TOX	7/31/00	0910			1	X						
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METHOD OF SHIPMENT: F	ED X		UPS	_	HAND	OTHER .			<u> </u>	<del></del>		-
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Dong Mahle	<u>-</u>		0940 73108	150 0 1	Alva Re	<u>بر</u> ۲۶۰				7/31/09		OF
White - Return w/sample					- Keep for your records				<u></u>	1 / 1 / 11 9	1	

# Appendix B

Test Data and Summary of Statistics for the Evaluation of the Chronic Toxicity of the San Joaquin River Recirculation Study Ambient Waters to Selenastrum capricornutum

Report Date: Test Code: 04 Sep-08 15:51 (p 1 of 1)

								Test Code:	;	_	13-047	5-5329/29449
Selenastrum	Growth Test								_		Pac	ific EcoRisk
Test Run No: Start Date: Ending Date: Duration:	09-4618-8644 30 Jul-08 10:45 03 Aug-08 10:30 96h	Pr Sp	est Type: otocol: pecies: purce:	Cell Growth EPA/821/R-02 Selenastrum c In-House Cultu	apricornutur	n		Analyst: Diluent: Brine: Age:	Not A	Jirasritum pplicable pplicable	irong	
	09-1745-9873 29 Jul-08 06:40 01 Jul-08 11:50 28h (12 °C)	Ma So	ode: aterial: ource: ation:	NWDS-001 Ambient Wate URS NWDS	r			Client: Project:	URS 13489	9		
Comparison 5	Summary											
Analysis No 03-8557-0424	Endpoint Cell Density		NOEL 100	LOEL >100	TOEL N/A	PMSD 11.1%	TU 1	Meth		lultinle Co	mparison	
Point Estimate	e Summary	-								-	mpanson	Test
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	nod			
	_	Count 4	IC2.5 IC5 IC10 IC15 IC20 IC25 IC40 IC50		N/A N/A N/A N/A N/A N/A N/A 95% UCL 2.58E+6	N/A N/A N/A N/A N/A N/A N/A N/A N/A	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Lines	er Inter	Std Dev 2.90E+5	CV% 11.7%	Diff%
6.25		4	3.11E		3.17E+6	2.92E+6	3.35E			2.90E+5 1.84E+5	11.7% 5.94%	0.0% -25.7%
12.5 25 50 100		4 4 4 4	3.15E- 3.81E- 4.32E- 4.46E-	6 3.78E+6 6 4.29E+6	3.19E+6 3.83E+6 4.35E+6 4.51E+6	3.04E+6 3.72E+6 4.23E+6 4.35E+6	3.30E 3.87E 4.39E 4.63E	E+6 2.01E E+6 1.16E E+6 1.46E	+4 +4 +4	1.10E+5 6.34E+4 7.97E+4 1.21E+5	3.49% 1.67% 1.85% 2.7%	-27.5% -54.1% -74.8% -80.6%
Cell Density D	etail											<del></del>
	Lab Water	Rep 1 2.79E+6 3.02E+6 3.04E+6 3.83E+6 4.27E+6 4.63E+6	Rep 2 2.57E+ 3.35E+ 3.11E+ 3.81E+ 4.39E+ 4.41E+	6 2.92E+6 6 3.15E+6 6 3.87E+6 6 4.23E+6	Rep 4 2.42E+6 3.13E+6 3.30E+6 3.72E+6 4.38E+6 4.45E+6							

100

-17.5

2.41

Report Date: Test Code:

Non-Significant Effect

04 Sep-08 15:51 (p 1 of 1)

13-0475-5329/29449

Selenastrum	Growth Test	 		Pacific EcoRlsk
Analysis No: Analyzed:	03-8557-0424 04 Sep-08 15:51	 Cell Density Parametric-Control vs Treatments	CETIS Version: Official Results:	 

Untransformed C > T Not Run 100 >100 N/A 1 1	Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD	
	Untransformed		C > T	Not Run	100	>100	N/A	1	11.1%	

Dunnett's Mu	ultiple	Comparison Tes	t				-
Control	vs	Conc-%	Test Stat	Critical	M\$D	P-Value	Decision(5%)
Lab Water		6.25	-5.59	2.41	274000	1.0000	Non-Significant Effect
		12.5	-5.98	2.41	274000	1.0000	Non-Significant Effect
		25	-11.8	2.41	274000	1.0000	Non-Significant Effect
		50	-16.3	2.41	274000	1.0000	Non-Significant Effect

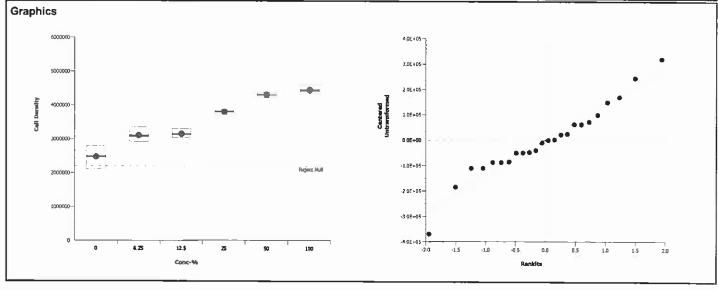
ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	1.203148E+13	2.406297E+12	5	93.2	0.0000	Significant Effect
Error	4.6485E+11	25825000000	18			•
Total	1.2496333701E+13	2.4321215836E+12	23			

274000

1.0000

ANOVA Assumptio	ns				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	8.34	15.1	0.1380	Equal Variances
Distribution	Shapiro-Wilk Normality	0.963		0.5040	Normal Distribution

Cell Densit	y Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.47E+6	2.36E+6	2.58E+6	2.10E+6	2.79E+6	5.38E+4	2.90E+5	11.7%	0.0%
6.25		4	3.11E+6	3.03E+6	3.18E+6	2.92E+6	3.35E+6	3.43E+4	1.84E+5	5.94%	-25.7%
12.5		4	3.15E+6	3.11E+6	3.19E+6	3.04E+6	3.30E+6	2.04E+4	1.10E+5	3.49%	-27.5%
25		4	3.81E+6	3.78E+6	3.83E+6	3.72E+6	3.87E+6	1.18E+4	6.34E+4	1.67%	-54.1%
50		4	4.32E+6	4.29E+6	4.35E+6	4.23E+6	4.39E+6	1.48E+4	7.97E+4	1.85%	-74.8%
100		4	4.46E+6	4.41E+6	4.51E+6	4.35E+6	4.63E+6	2.24E+4	1.21E+5	2.7%	-80.6%



Report Date:

04 Sep-08 15:51 (p 1 of 1)

Test Code:

13-0475-5329/29449

est	Growth	Selenastrum
-----	--------	-------------

Analysis No: 16-6382-1399 04 Sep-08 15:51 Endpoint: Cell Density

Analysis: Linear Interpolation (ICPIN) **CETIS Version:** CETISv1.6.5

Pacific EcoRisk

Official Results: Yes

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2895625	280	Yes	Two-Point Interpolation

### **Point Estimates**

Analyzed:

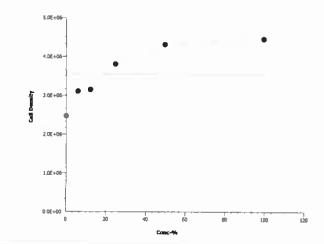
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC2.5	>100	N/A	N/A	<1	N/A	N/A
IC5	>100	N/A	N/A	<1	N/A	N/A
IC10	>100	N/A	N/A	<1	N/A	N/A
IC15	>100	N/A	N/A	<1	N/A	N/A
IC20	>100	N/A	N/A	<1	N/A	N/A
IC25	>100	N/A	N/A	<1	N/A	N/A
IC40	>100	N/A	N/A	<1	N/A	N/A
IC50	>100	N/A	N/A	<1	N/A	N/A

Cell Densi	ty Summary			Calculated Variate					
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.47E+6	2.10E+6	2.79E+6	5.29E+4	2.90E+5	11.7%	0.0%
6.25		4	3.11E+6	2.92E+6	3.35E+6	3.37E+4	1.84E+5	5.94%	-25.7%
12.5		4	3.15E+6	3.04E+6	3.30E+6	2.01E+4	1.10E+5	3.49%	-27.5%
25		4	3.81E+6	3.72E+6	3.87E+6	1.16E+4	6.34E+4	1.67%	-54.1%
50		4	4.32E+6	4.23E+6	4.39E+6	1.46E+4	7.97E+4	1.85%	-74.8%
100		4	4.46E+6	4.35E+6	4.63E+6	2.20E+4	1.21E+5	2.7%	-80.6%

#### Cell Density Detail

Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	2.79E+6	2.57E+6	2.10E+6	2.42E+6
6.25		3.02E+6	3.35E+6	2.92E+6	3.13E+6
12.5		3.04E+6	3.11E+6	3.15E+6	3.30E+6
25		3.83E+6	3.81E+6	3.87E+6	3.72E+6
50		4.27E+6	4.39E+6	4.23E+6	4.38E+6
100		4.63E+6	4.41E+6	4.35E+6	4.45E+6

#### Graphics



# Selenastrum capricornutum Cell Density Enumeration Data

Client: _	URS: DMC	26850 ial Count: _	10,000 cells/mL
Test Material:	NWDS-001-TOX	Enumerating Scientist:	814
Test Start Date:	7/30/08 Start Time: 1045	Project #:	13489
Test End Date: 9	(/3/08 End Time: 1030	Test ID #:	29449
_	<del></del>		

		C	ell Density (cells/ml)	( 10°)	
Treatment	Rep A	Rep B	Rep C	Rep D	Mean
Lab Water Control	2.79	2.57	2.10	2.42	2.47
6.25%	3.02	3.35	2.92	3.13	3.10
12.5%	3.04	3.11	3.15	3.30	3.15
25%	3.83	3.81	3.87	3.72	3.80
50%	4.27	4-39	4.23	4.38	4.32
100%	4.63	4.41	4.35	4.45	4.46
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10 <sup>6</sup> )	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.47	117	8/3/08	18:30	æ

# Selenastrum capricornutum Algal Toxicity Test Water Quality Data

 Client:
 URS: DMC
 Test ID #: 29449
 Test Date:
 1/30/7/30/08

 Test Material:
 NWDS-001-TOX
 Project #: 13489
 Control/Diluent:
 Algal medium, W/O EDTA

Test Treatment	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	24.8	7.60	8.3	95.4	Date 7/30/08
6.25% Sample	24.8	7.91	8.3	196.40	Sample ID 20176
12.5% Sample	24.8	7.91	8.4	288.4	Test Solution Prep: KV
25% Sample	24.8	7.95	8.4	468	New WQ *>
50% Sample	24.8	8.01	8.5	809000	Innoculation Time. /045
100% Sample	24.8	8.01	8.7	1487	Innoculation Signoff: JT/RV
Meter ID:	6	Ph 03	0010	Ec 01	
Lab Water Control	24.9	7.97			Date: 7/31/08
6.25% Sample	24.9	7.84			WQ Time: ICOC
12.5% Sample	24.9	7.85			WQ Signotl: HVA
25% Sample	24.9	7.96			
50% Sample	24.9	81.8			
100% Sample	24.9	8.36			
Meter ID:	41	PHII			
Lab Water Control	24.6	9.44			Date: 8.01.08
6.25% Sample	24.6	9.20			WQ Time: 1/36
12.5% Sample	24.6	9.03			WQ Signoff: Ask
25% Sample	24.6	9.12	- WE WE		
50% Sample	24.6	9.10			
100% Sample	24.6	9.06			
Meter ID:	6	P#11			
Lab Water Control	24.7	9.81			Date: 8/2/08
6.25% Sample	24.7	9.84			WQ Time: 09 20
12.5% Sample	24.7	9.59			WQ Signoff: HTA
25% Sample	24.7	9.64			
50% Sample	24.7	9.48			
100% Sample	24.7	9.18		- I - 5	ti i inindirente este este este este este este este
Meter ID:	41	PHOG			
Lab Water Control	246	9.89	12.9	104	Date: 8/3/=8
6.25% Sample	24.6	10.00	15.0	206	Termination Time 1030
12.5% Sample	24.6	10.10	17.2	300	Termination Signoff
25% Sample	24.6	10.20	17.8	466	WQ Time 1230
50% Sample	24.6	10.04	19.7	747	WQ Signoff (Va)
100% Sample	24.6	9.78	19.6	1265	
Meter ID:	6	PHII	D014	ECOL	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	√ 267	V 405	412

Report Date: Test Code:

12 Sep-08 14:05 (p 1 of 1)

								Test Code:	<u>.                                    </u>		14-5	902-9198/2945
Selenastrum	Growth Test									_	Р	acific EcoRisk
Test Run No: Start Date: Ending Date: Duration:	04-0845-1107 30 Jul-08 18:15 03 Aug-08 17:30 95h	Prof Spe	t Type: tocol: cies: rce:	Cell Growth EPA/821/R-02 Selenastrum of In-House Cultu	apricornutun	n		Analyst: Diluent: Brine: Age:	Labo	n Villanuev ratory Wat Applicable		
	07-7753-2107 29 Jul-08 21:52 30 Jul-08 13:50 20h (5 °C)		erial: rce:	NWDS-002 Ambient Wate URS NWDS	r			Client: Project:	URS 1348	9		
Comparison S	Summary	<del></del> -			<del></del>	<del></del>						<del></del> -
Analysis No 00-5547-6476	Endpoint Cell Density	_	NOEL 100	LOEL >100	TOEL N/A	PMSD 50.4%	TU 1	Meth		4 11 0		
			100		19//	50.4%		Düni	neπ's N	/lultiple Co	mpariso	on Test <del></del>
Point Estimate												
Analysis No 20-3814-7291	Endpoint Cell Density		Level	4.18	95% LCL N/A	95% UCL 9.91	TU 23.9	Meth				
	-		IC5 IC10 IC15 IC20 IC25 IC40 IC50	6.57 7.83 9.1 10.4 11.6 78.6 >100	N/A N/A N/A 0.598 1.54 N/A	9.91 11.4 18.7 40.4 86.1 96.9 97.6 N/A	15.2 12.8 11 9.65 8.6 1.27	Line	ar inter	polation (II	CPIN)	
Cell Density S	ummary											
		Count	Mean	95% LCL	95% UCL	Min	Max	Std i	Err	Std Dev	CV%	Diff%
0 6.25 12.5 25 50 100		4 4 4 4 4	2.74E+ 2.64E+ 1.57E+ 2.09E+ 2.23E+ 1.41E+	2.30E+6 -6 1.12E+6 -6 1.77E+6 -6 1.87E+6	2.78E+6 2.98E+6 2.02E+6 2.40E+6 2.59E+6 1.48E+6	2.63E+6 1.56E+6 8.31E+5 9.83E+5 1.09E+6 1.22E+6	2.87E 3.63E 3.34E 2.94E 3.45E 1.61E	E+6 1.65E E+6 2.18E E+6 1.54E E+6 1.77E	E+5 E+5 E+5 E+5	1.08E+5 9.06E+5 1.20E+6 8.43E+5 9.71E+5 1.96E+5	3.94% 34.3% 76.2% 40.4% 43.5% 13.9%	0.0% 3.74% 42.8% 23.9% 18.6%
Cell Density D	etail		<del></del>	,	<del></del>					1.002.0	10.07	70.770
	Lab Water	Rep 1 2.63E+6 2.29E+6 3.34E+6 2.49E+6 3.45E+6 1.26E+6	Rep 2 2.87E+ 3.63E+ 8.31E+ 2.94E+ 2.33E+ 1.22E+	1.56E+6 5 1.24E+6 6 9.83E+5 6 1.09E+6	Rep 4 2.79E+6 3.08E+6 8.65E+5 1.93E+6 2.06E+6 1.54E+6				_			

Report Date: Test Code: 04 Aug-08 08:45 (p 1 of 1) 14-5902-9198/29450

				rest dode.	[+-550Z-5150/Z5450
Selenastrum	Growth Test				Pacific EcoRisk
Analysis No: Analyzed:	00-5547-6476 04 Aug-08 8:43	•	Cell Density Parametric-Control vs Treatments	CETIS Version: Official Results:	

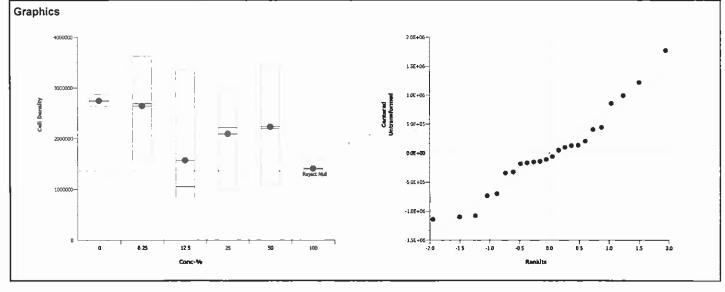
Untransformed C > T Not Run 100 >100 N/A 1 50.4%	Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TŲ	PMSD
	Untransformed		C > T	Not Run	100	>100	N/A	1	50.4%

Dunnett's Mu	Dunnett's Multiple Comparison Test										
Control	VS	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)				
Lab Water		6,25	0.179	2.41	1380000	0.7750	Non-Significant Effect				
		12.5	2.04	2.41	1380000	0.0965	Non-Significant Effect				
		25	1.14	2.41	1380000	0.3600	Non-Significant Effect				
		50	0.889	2.41	1380000	0.4720	Non-Significant Effect				
		100	2.33	2.41	1380000	0.0582	Non-Significant Effect				

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	5.930753E+12	1.186151E+12	5	1.8	0.1640	Non-Significant Effect
Error	1.185844E+13	6.588024E+11	18			
Total	1.7789196173E+13	1.8449530225E+12	23			

ANOVA Assumption	ANOVA Assumptions									
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)					
Variances	Bartlett Equality of Variance	14.5	15.1	0.0130	Equal Variances					
Distribution	Shapiro-Wilk Normality	0.953		0.3110	Normal Distribution					

Cell Densit	Cell Density Summary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.74E+6	2.70E+6	2.78E+6	2.63E+6	2.87E+6	2.01E+4	1.08E+5	3.94%	0.0%	
6.25		4	2.64E+6	2.30E+6	2.98E+6	1.56E+6	3.63E+6	1.68E+5	9.06E+5	34.3%	3.74%	
12.5		4	1.57E+6	1.11E+6	2.02E+6	8.31E+5	3.34E+6	2.22E+5	1.20E+6	76.2%	42.8%	
25		4	2.09E+6	1.76E+6	2.41E+6	9.83E+5	2.94E+6	1.57E+5	8.43E+5	40.4%	23.9%	
50		4	2.23E+6	1.86E+6	2.60E+6	1.09E+6	3.45E+6	1.80E+5	9.71E+5	43.5%	18.6%	
100		4	1.41E+6	1.33E+6	1.48E+6	1.22E+6	1.61E+6	3.64E+4	1.96E+5	13.9%	48.7%	



Report Date:

04 Aug-08 08:45 (p 1 of 1)

	_				<u>_</u>					Test	Code:	1	4-5902-9198/29450
Selena	astrum (	Growth Test											Pacific EcoRisk
Analys	sis No:	20-3814-7291		Endpoint:	Cell Density				-	CET	IS Version:	CETISv1.6.5	
Analyz	ed:	04 Aug-08 8:43	3	Analysis:	Linear Interpol	ation (ICPIN	)				ial Results:		
Linear	Interpo	lation Options						_					
X Tran		Y Transform		Čaad	Danson								
Linear	SIVIII	Linear		Seed 7055475	Resamples 280	Exp 95%	CL		thod	–			
		<del></del>				Yes ————		IW	o-Point	Interp	olation		
Point I	Estimate	9S											-
Level	Conc		95% L	JCL	TU	95% LCL	95%	UC	L				
IC2.5	4.18	N/A	9.91		23.9	10.1	N/A						
IC5	6.57	N/A	11.4		15.2	8.81	N/A						
IC10	7.83	N/A	18.7		12.8	5.36	N/A						
IC15	9.1	N/A	40.4		11	2.47	N/A						
IC20	10.4	0.598	86.1		9.65	1.16	167						
IC25	11.6	1.54	96.9		8.6	1.03	64.8	1					
IC40	78.6	N/A	97.6		1.27	1.02	N/A						
IC50	>100	N/A	N/A		<1 	N/A	N/A		_				
Cell De	ensity S	ummary				Cal	culate	ed V	/ariate				
Conc-9	<u>"</u> С	ontrol Type	Count	Mean	Min	Max	Std	Err	Std	Dev	CV%	Diff%	
0	L	ab Water	4	2.74E	+6 2.63E+6	2.87E+6	1.97	E+4	1.08	E+5	3.94%	0.0%	
6.25			4	2.64E	+6 1.56E+6	3.63E+6	1.65	E+5	9.06	E+5	34.3%	3.74%	
12.5			4	1.57E		3.34E+6	2.18	E+5	1.20	E+6	76.2%	42.8%	
25			4	2.09E		2.94E+6	1.54	E+5	8.43	E+5	40.4%	23.9%	
50			4	2.23E		3.45E+6	1.77			E+5	43.5%	18.6%	
100		<del>_</del>	4	1.41E	+6 1.22E+6	1.61E+6	3.58	E+4	1.96	E+5	13.9%	48.7%	
Cell De	ensity D	etail											
Conc-%	<u>6</u> C	ontrol Type	Rep 1	Rep 2	Rep 3	Rep 4							
0	La	ab Water	2.63E+	6 2.87E	+6 2.68E+6	2.79E+6		_					
6.25			2.29E-	6 3.63E-	+6 1.56E+6	3.08E+6							
12.5			3.34E+	-6 8.31E-	+5 1.24E+6	8.65E+5							
25			2.49E+	6 2.94E-	+6 9.83E+5	1.93E+6							
50			3.45E+	-6 2.33E-	+6 1.09E+6	2.06E+6							
100		<del></del>	1.26E+	6 1.22E-	+6 1.61E+6	1.54E+6							
Graphi	cs												
	3 0E+06												
	300400												
	2.5E+96-	•											
	232700												
	2 0E+06-	•	•										
E		-											
Ced Donald	155.06	•											
3	1 5E+06-				•								
	101												
	1.02+06-												
	5 OF												
	5.0E+05-												
	0.0E+00												
	0	20 40	60	80	100 120								

# Selenastrum capricornutum Cell Density Enumeration Data

Client:	URS: DMC	Initial Count:_	10,000 cells/mL
Test Material: _	NWDS-002-TOX	_Enumerating Scientist: _	54
Test Start Date:	7/30/08 Start Time: 1815	Project #:	13489
Test End Date:	7/3/98 End Time: 1736	Test ID #:	29450

			Cell Density (cells/ml)	x_10°)	
Treatment	Rep A	Rep B	Rep C	Rep D	Mean
Lab Water Control	2.63	2.87	2.68	2.79	2.74
6.25%	2.29	3.43	1.56	3.08	2.64
12.5%	3.34	0.831	1.24	0.865	1.57
25%	2.49	2.94	0.983		2.09
50%	3.45	2.33	1,09	2.06	2.23
100%	1.26	1.22	1.61	1.54	1.41
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.74	3.9	8/3/08	1830	26

# **CETIS Summary Report**

Report Date: Link/Link Code: 30 Sep-08 12:32 (p 1 of 1) 14-5902-9198/29450

							Liiti	VEHIK COL	16.	14-3302	-3130/234
Selenastrum (	Growth Test									Paci	fic EcoRis
	04-0845-1107			Cell Growth	012 /2002\			•	ivian Villanue		
Start Date:	30 Jul-08 18:15 03 Aug-08 17:3		otocol: ecies:	EPA/821/R-02 Selenastrum o	, ,		Brit		aboratory Wa ot Applicable	lei	
Duration:	95h		urce:	In-House Cuite	•	П	Age				
Duration.	3311	30	urce.	- TIP TOUSE CUIL	nie						
Sample No:	07-7753-2107	-	de:	NWDS-002			Clie		RS		
Sample Date:			iterial:	Ambient Wate	r		Pro	ject: 1	3489		
	30 Jul-08 13:50		urce:	URS							
Sample Age:	20h (5 °C)	Sta	ation:	NWDS							
Comments:	Hemacytomete	er counts.									
Comparison S	Summary										
Analysis No	Endpoint			NOEL	LOEL	TOEL	PMSD	Method			
01-7542-7406	Cell Density		<u>.</u>	12.5	25	17.7	51.3%	Steel Ma	any-One Rank	Test	
Point Estimate	e Summary										
Analysis No	Endpoint			Effect-%	Conc-%	95% LCL	95% UCL	. Method			
17-7200-0408	Cell Density	_		2.5	0.383	0.13	1.69	Linear II	nterpolation (I	CPIN)	
				5	0.767	0.26	3.38				
				10	1.53	0.52	6.76				
				15	2.3	0.779	8.93				
				20	3.07	1.04	10.4				
				25	3.83	1.3	11.8				
				40	6.13	2.08	23.5				
				50	8.33	2.2	30.3				
Cell Density S											
	Control Type	Count	Mean		95% UCL		Max	Std Err	Std Dev	CV%	Diff%
	Lab Water	4	2.59E+		2.68E+6	2.44E+6	2.97E+6	4.64E+4		9.8%	0.0%
6.25		4	1.53E+		1.86E+6	5.87E+5	2.54E+6	1.61E+5		57.6%	40.8%
12.5		4	7.63E+		1.29E+6	4.70E+4	2.90E+6	2.60E+5		187.0%	70.5%
25		4	8.68E+		1.11E+6	5.50E+4	1.49E+6	1.20E+		75.7%	66.5%
50		4	3.29E÷		5.51E+5	1.70E+4	1.22E+6	1.08E+5		181.0%	87.3%
100		4	5.35E	+4 4.31E+4	6.39E+4	3.70E+4	9.50E+4	5.07E+3	3 2.77E+4	51.9%	97.9%
Cell Density D	)etail										
Conc-%	Control Type	Rep 1	Rep 2		Rep 4						
0	Lab Water	2.47E+6	2.44E-		2.48E+6						
6.25		1.04E+6	2.54E		1.97E+6						
12.5		2.90E+6	5.00E-		4.70E+4						
25		1.49E+6	1.30E-		6.25E+5						
50		1.22E+6	2.70E	+4 1.70E+4	5.20E+4						
		4.00E+4	4.20E-	+4 9.50E+4	3.70E+4						

Report Date: Link/Link Code: 30 Sep-08 12:33 (p 1 of 1)

14-5902-9198/29450

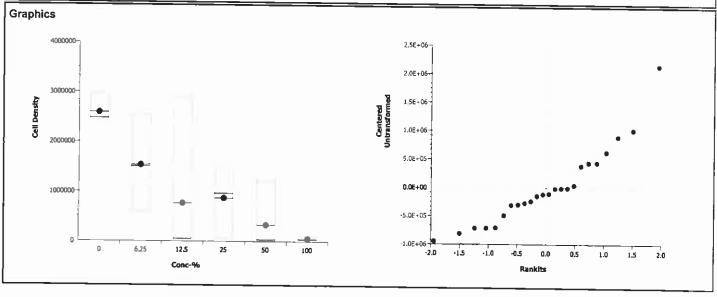
Selenastrum	Growth Test							Pacific EcoRisk
Analysis No: Analyzed:	01-7542-7406 30 Sep-08 12:30	•	Cell Density Nonparametric-Control	vs Treatments		ETIS Version: fficial Results		1.6.4
Data Transfor	m Zeta	Alt H	/p Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD

Untransforme	d		C>T	Not Run		12.5	25	17.7	8	51.3%
Steel Many-C	ne Ra	nk Test								
Control	vs	Conc-%	Test Stat	Critical	Ties	P-Value	Decision	n(5%)		
Lab Water		6.25	13	10	0	0.2310	Non-Sign	ificant Effec		
		12.5	13	10	0	0.2310	_	ificant Effec		
		25*	10	10	0	0.0417	Significa		•	
		50⁼	10	10	0	0.0417	Significar			
		100*	10	10	0	0.0417	Significar			

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	1.692E+13	3.384E+12	5	5.55	0.0029	Significant Effect
Error	1.098E+13	6.100E+11	18			
Total	2.790E+13	3.994E+12	23	_		

ANOVA Assumpti	ANOVA Assumptions										
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)						
Variances	Bartlett Equality of Variance	22.2	15.1	0.0005	Unequal Variances						
Distribution	Shapiro-Wilk Normality	0.903		0.0254	Normal Distribution						

Cell Densit	y Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.59E+6	2.49E+6	2.69E+6	2.44E+6	2.97E+6	4.71E+4	2.54E+5	9.8%	0.0%
6.25		4	1.53E+6	1.20E+6	1.87E+6	5.87E+5	2.54E+6	1.64E+5	8.84E+5	57.6%	40.8%
12.5		4	7.63E+5	2.21E+5	1.30E+6	4.70E+4	2.90E+6	2.65E+5	1.42E+6	187.0%	70.5%
25		4	8.68E+5	6.18E+5	1.12E+6	5.50E+4	1.49E+6	1.22E+5	6.57E+5	75.7%	66.5%
50		4	3.29E+5	1.03E+5	5.55E+5	1.70E+4	1.22E+6	1.10E+5	5.94E+5	181.0%	87.3%
100		4	5.35E+4	4.29E+4	6.41E+4	3.70E+4	9.50E+4	5.15E+3	2.77E+4	51.9%	97.9%



Report Date: Link/Link Code: 30 Sep-08 12:33 (p 1 of 1)

14-5902-9198/29450

Selenastrum Growth Test

Analysis No: 17-7200-0408

Endpoint: Cell Density

**CETIS Version:** 

Pacific EcoRisk

Analyzed:

30 Sep-08 12:30

Analysis: Linear Interpolation (ICPIN)

Official Results:

CETISv1.6.4 Yes

Linear Interpolation Options	,
------------------------------	---

X Transform	Y Transform	Seed	Resamples	Exp <b>95% CL</b>	Method
Linear	Linear	7055475	280	Yes	Two-Point Interpolation

Point	<b>Estimates</b>
-------	------------------

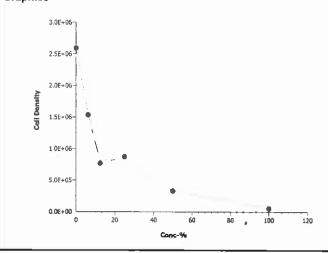
Effect-%	Conc-%	95% LCL	95% UCL
2.5	0.383	0.13	1.69
5	0.767	0.26	3.38
10	1.53	0.52	6.76
15	2.3	0.779	8.93
20	3.07	1.04	10.4
25	3.83	1.3	11.8
40	6.13	2.08	23.5
50	8.33	2.2	30.3

Cell Densi	ty Summary		Calculated Variate						
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.59E+6	2.44E+6	2.97E+6	4.64E+4	2.54E+5	9.8%	0.0%
6.25		4	1.53E+6	5.87E+5	2.54E+6	1.61E+5	8.84E+5	57.6%	40.8%
12.5		4	7.63E+5	4.70E+4	2.90E+6	2.60E+5	1.42E+6	187.0%	70.5%
25		4	8.68E+5	5.50E+4	1.49E+6	1.20E+5	6.57E+5	75.7%	66.5%
50		4	3.29E+5	1.70E+4	1.22E+6	1.08E+5	5.94E+5	181.0%	87.3%
100		4	5.35E+4	3.70E+4	9.50E+4	5.07E+3	2.77E+4	51.9%	97.9%

#### Cell Density Detail

	•				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	2.47E+6	2.44E+6	2.97E+6	2.48E+6
6.25		1.04E+6	2.54E+6	5.87E+5	1.97E+6
12.5		2.90E+6	5.00E+4	5.50E+4	4.70E+4
25		1.49E+6	1.30E+6	5.50E+4	6.25E+5
50		1.22E+6	2.70E+4	1.70E+4	5.20E+4
100		4.00E+4	4.20E+4	9.50E+4	3.70E+4

#### Graphics



# Selenastrum capricornutum Cell Density Enumeration Data

Client: URS: DMC Initial Count: 10,000 cells/mL

Test Material:  $NVDS - 002 - To \times$  Enumerating Scientist: \$4

Test Start Date:  $\frac{7}{30/08}$  Start Time: 1815 Project #: 13489

Test End Date:  $\frac{8}{3/08}$  End Time: 1730 Test ID #: 29450

		C	ell Density (cells/ml	x 10°)	
Treatment	Rep A	Rep B	Rep C	Rep D	Mean
Lab Water Control	2.47	2.44	2.97	2.48	2.59
6.25%	1.04	2.54	0.587	1.97	1.53
12.5%	2.90	0.050	0.055	0.047	0.763
25%	1.49	1.30	0.055	0.625	0.868
50%	1.22	0.027	0.017	0.052	0.329
100%	0-040	0-042	0.095	o. º37	0.053
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10 <sup>6</sup> )	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.59	9.8	8-7-08	1700	MS

Hemacytometer counts for all Treatments. 34

# Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29450 Test Date: 7/30/98

Test Material: NWDS-002-TOX Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	рН	D.O. (mg/L)	Conductivity (µS/em)	Sign-Off
Lab Water Control	25.3	7.57	7.1	142	Date 7/30/08
6.25% Sample	15-3	7.76	7.0	230	Sample ID 20179
12.5% Sample	25.3	7.74	7.1	300	Test Solution Prep: QQ
25% Sample	25.3	7-77	7.3	471	New WQ:
50% Sample	25-3	7-79	7.5	768	Innoculation Time 18 15
100% Sample	25.3	7-83	7-9	1345	Innoculation Signoff: 73
Meter ID:	5	DHWII	0012	cc 04	
Lab Water Control	24.9	8-05			Date: 7/31/08
6.25% Sample	24.9	7.96			WQ Time: 1460
12.5% Sample	24.9	7.94			WQ Signoff: 479
25% Sample	24.9	8.12			
50% Sample	24.9	8.24			And the second s
100% Sample	24.9	8.36			Control of the section of the sectio
Meter ID:	41	P411			
Lab Water Control	25.2	8.87			Date: 8.01.08
6.25% Sample	25.2	9.01			WQ Time: /2 30
12.5% Sample	25.2	9.04			WQ Signoff:
25% Sample	25.2	8.97			And the state of t
50% Sample	25.2	8.96			
100% Sample	25.2	8.91			
Meter ID:	5	PH 11			
Lab Water Control	<b>24.7</b>	9.56			Date: 8/2/08
6.25% Sample	24.7	ባ.(3			WQ Time: 1050
12.5% Sample	247	9.51			WQ Signoff: HD)
25% Sample	24.7	HTM9-38 9.47			
50% Sample	24.2	9.38			·
100% Sample	74.7	9.12			
Meter ID:	41	PHOG			
Lab Water Control	25.3	രാ	13.1	159	Date. 813/04
6.25% Sample	25.3	10.00	149	246	Termination Time: 1730
12.5% Sample	253	9.90	14.6	306	Termination Signoff
25% Sample	253	9.85	16.3	468	WQ Time: 1115
50% Sample	15.3	9.71	18,3	723	WQ Signoff: 1
100% Sample	153	9,29	19.7	1219	
Meter ID:	5.	PHII	2014	ECO1	

Initial Test Conditions	- /	Alkalinity		Hardness	Light Intensity (ftc)
	1	222	V	343	387

#### **CETIS Summary Report**

Report Date:

04 Sep-08 18:02 (p 1 of 1)

Test Code: 20-7982-1379/29781 Selenastrum Growth Test Pacific EcoRisk Test Run No: 17-1076-3934 Test Type: Cell Growth Analyst: John Jirasritumrong Start Date: 04 Aug-08 17:00 Protocol: EPA/821/R-02-013 (2002) Diluent: Not Applicable Ending Date: 08 Aug-08 16:00 Species: Selenastrum capricornutum Brine: Not Applicable Duration: Source: in-House Culture Age: Sample No: 07-7753-2107 Code: NWDS-002 Client: **URS** Sample Date: 29 Jul-08 21:52 **Ambient Water** Material: Project: 13489 Receive Date: 30 Jul-08 13:50 Source: URS Sample Age: 5d 19h (5 °C) Station: **NWDS** Comparison Summary Analysis No **Endpoint** NOEL LOEL **TOEL PMSD** TU Method 09-3193-6557 Cell Density 100 >100 N/A 7.98% 1 **Dunnett's Multiple Comparison Test Point Estimate Summary** Analysis No **Endpoint** 95% UCL Level Conc-% 95% LCL TU Method 10-5091-2632 Cell Density IC2.5 >100 N/A N/A Linear Interpolation (ICPIN) <1 IC5 >100 N/A N/A <1 IC10 >100 N/A N/A <1 IC15 >100 N/A N/A <1 IC20 >100 N/A N/A <1 IC25 >100 N/A N/A <1 IC40 >100 N/A N/A <1 IC50 >100 N/A N/A **Cell Density Summary** Conc-% **Control Type** Count Mean 95% LCL 95% UCL Min Max Std Err Std Dev CV% Diff% 0 Lab Water 2.98E+6 4 2.96E+6 3.00E+6 2.91E+6 3.03E+6 9.35E+3 5.12E+4 1.72% 0.0% 6.25 4 3.81E+6 3.75E+6 3.87E+6 3.63E+6 4.00E+6 2.95E+4 1.62E+5 4.24% -28.0% 12.5 4 4.06E+6 4.03E+6 4.08E+6 4.15E+6 3.99E+6 1.44E+4 7.90E+4 1.95% -36.2% 25 4 4.41E+6 4.37E+6 4.45E+6 4.29E+6 4.54E+6 1.96E+4 1.08E+5 -48.0% 2.44% 50 4.72E+6 4 4.63E+6 4.82E+6 5.01E+6 4.48E+6 4.72E+4 2.58E+5 5.47% -58.6% 6.06E+4 100 4.26E+6 4.24E+6 4.28E+6 4.20E+6 4.34E+6 1.11E+4 1.42% -43.1% Cell Density Detail Conc-% **Control Type** Rep 1 Rep 2 Rep 3 Rep 4 Lab Water 2.91E+6 0 3.03E+6 2.97E+6 3.00E+6

6.25

12.5

25

50

100

3.63E+6

3.99E+6

4.29E+6

4.87E+6

4.20E+6

3.88E+6

4.09E+6

4.44E+6

5.01E+6

4.27E+6

4.00E+6

4.15E+6

4.36E+6

4.53E+6

4.34E+6

3.74E+6

3.99E+6

4.54E+6

4.48E+6

4.23E+6

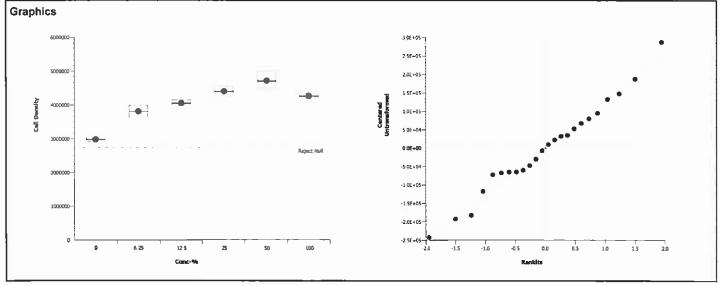
Report Date: Test Code: 04 Sep-08 18:02 (p 1 of 1)

20-7982-1379/29781

Selenastrum	Grow	th Test								Pacific EcoRisk
Analysis No: Analyzed:			•	Density ametric-Co	ntrol vs Trea	atments		IS Version: ial Results:	CETIS\ Yes	1.6.5
Data Transfor	m	Zeta	Alt Hyp	Monte Ca	irlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	i		C>T	Not Run		100	>100	N/A	1	7.98%
Dunnett's Mu	ltiple	Comparison Test		-						
Control	vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(	(5%)		
Lab Water		6.25 .	-8.46	2.41	238000	1.0000	Non-Signi	ficant Effect		
		12.5	-10.9	2.41	238000	1.0000	Non-Signi	ficant Effect		
		25	-14.5	2.41	238000	1.0000	Non-Signi	ficant Effect		
		50	-17.7	2.41	238000	1.0000	Non-Signi	ficant Effect		
		100	-13	2.41	238000	1.0000	Non-Signi	ficant Effect		
ANOVA Table										
Source		Sum Squares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)	
Between		7.320584E+12	1.464117E	+12	5	75.1	0.0000	Significant	Effect	<u> </u>
Error		3.508E+11	194888900	000	18			-		
Total		7.6713835233E+12	1.4836055	962E+12	23					

ANOVA Assumptions									
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)				
Variances	Bartlett Equality of Variance	10.1	15.1	0.0716	Equal Variances				
Distribution	Shapiro-Wilk Normality	0.986		0.9750	Normal Distribution				

Cell Density Summary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.98E+6	2.96E+6	3.00E+6	2.91E+6	3.03E+6	9.51E+3	5.12E+4	1.72%	0.0%
6.25		4	3.81E+6	3.75E+6	3.87E+6	3.63E+6	4.00E+6	3.00E+4	1.62E+5	4.24%	-28.0%
12.5		4	4.06E+6	4.02E+6	4.09E+6	3.99E+6	4.15E+6	1.47E+4	7.89E+4	1.95%	-36.2%
25		4	4.41E+6	4.37E+6	4.45E+6	4.29E+6	4.54E+6	2.00E+4	1.08E+5	2.44%	-48.0%
50		4	4.72E+6	4.62E+6	4.82E+6	4.48E+6	5.01E+6	4.80E+4	2.58E+5	5.47%	-58.6%
100		4	4.26E+6	4.24E+6	4.28E+6	4.20E+6	4.34E+6	1.12E+4	6.06E+4	1.42%	-43.1%



Analysis No: 10-5091-2632

Report Date: **Test Code:** 

**CETIS Version:** 

04 Sep-08 18:02 (p 1 of 1)

**CETISv1.6.5** 

20-7982-1379/29781

Selenastrum Growth Test	Pacific EcoRisk

Analyzed: 04 Sep-08 18:01 Analysis: Linear Interpolation (ICPIN)

Official Results: Yes

Linear Interpolation	Options
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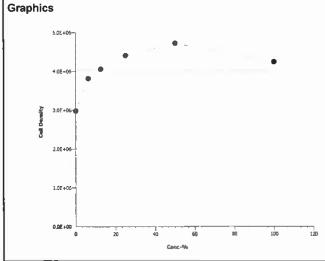
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	8714458	280	Yes	Two-Point Interpolation

Point E	Point Estimates										
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL					
IC2.5	>100	N/A	N/A	<1	N/A	N/A					
IC5	>100	N/A	N/A	<1	N/A	N/A					
IC10	>100	N/A	N/A	<1	N/A	N/A					
IC15	>100	N/A	N/A	<1	N/A	N/A					
IC20	>100	N/A	N/A	<1	N/A	N/A					
IC25	>100	N/A	N/A	<1	N/A	N/A					
IC40	>100	N/A	N/A	<1	N/A	N/A					
IC50	>100	N/A	N/A	<1	N/A	N/A					

Endpoint: Cell Density

Cell Density Summary				Calculated Variate						
Сопс-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.98E+6	2.91E+6	3.03E+6	9.35E+3	5.12E+4	1.72%	0.0%	
6.25		4	3.81E+6	3.63E+6	4.00E+6	2.95E+4	1.62E+5	4.24%	-28.0%	
12.5		4	4.06E+6	3.99E+6	4.15E+6	1.44E+4	7.89E+4	1.95%	-36.2%	
25		4	4.41E+6	4.29E+6	4.54E+6	1.96E+4	1.08E+5	2.44%	-48.0%	
50		4	4.72E+6	4.48E+6	5.01E+6	4.72E+4	2.58E+5	5.47%	-58.6%	
100		4	4.26E+6	4.20E+6	4.34E+6	1.11E+4	6.06E+4	1.42%	-43.1%	

Cell Densi	Cell Density Detail									
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4					
0	Lab Water	3.03E+6	2.91E+6	2.97E+6	3.00E+6					
6.25		3.63E+6	3.88E+6	4.00E+6	3.74E+6					
12.5		3.99E+6	4.09E+6	4.15E+6	3.99E+6					
25		4.29E+6	4.44E+6	4.36E+6	4.54E+6					
50		4.87E+6	5.01E+6	4.53E+6	4.48E+6					
100		4.20E+6	4.27E+6	4.34E+6	4.23E+6					



# Selenastrum capricornutum Cell Density Enumeration Data

Client: _		URS: DMC		Initial Count:	10,000 cells/mL
Test Material:		NWDS-002-TOX		Enumerating Scientist:	JI -
Test Start Date:	8/4/08	Start Time: _	1700	Project #:	13489
Test End Date:	0/8/08	End Time:	1600	Test ID #:	29782

Tourism		(	Cell Density (cells/ml	x 10°)	
Treatment	Rep A	<b>Rep</b> B	Rep C	Rep D	Mean
Lab Water Control	3.03	2.91	2.97	3.00	2.98
6.25%	3.63	3.88	4.00	3.74	3.81
12.5%	3.99	4.09	4.15	3.99	4.05
25%	4.29	4.44	4.36	4.54	4.41
50%	4.87	5,01	4.53	4.48	4.72
100%	4.20	4.27	4.34	4.73	4.26
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 106)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.98	1.72	8/8/04	, 2745	KB

# Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29781 Test Date: 8 408

Test Material: NWDS-002-TOX Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp ( <sup>1</sup> C)	рН	D.O. (mg/L.)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	24.8	7.52	8.6	157	Date: 8 4 OS
6.25% Sample	24.8	27.527.64	8.6	266	Sample ID 20174
12.5% Sample	24.8	7.73	8.8	323	Test Solution Prep M2_
25% Sample	24.8	7.81	8.7	491	New WQ RV
50% Sample	24.8	7.40	9.0	780	Innoculation Time 1700
100% Sample	24.t	7.86	9.5	1360	Innoculation Signoff
Meter ID:	41	Ph 03	D012	Ecol	
Lab Water Control	24.8	7.90			Date: 8/5/0 8
6.25% Sample	24.8	7.92			WQ Time: 1235
12.5% Sample	24.8	7-92			WQ SignofT: 人S
25% Sample	24.8	8.05			· · · · · · · · · · · · · · · · · · ·
50% Sample	24.8	8.21			
100% Sample	24.8	8.13			- a tam-remote podag njejo a ješi objavajem a pa nikom <u>ši</u> rog 1967 (m.) a 630 to ješ <u>ak (prografda imp</u> o do pro
Meter ID:	(0	рНоч			
Lab Water Control	25.3	8.61			Date: 8/6/08
6.25% Sample	25.3	8.92		-	Date: 8/6/08 WQ Time: 1230
12.5% Sample	25.3	8.88			WQ Signoff: ATR
25% Sample	25.3	8.82			
50% Sample	25.3	8.78			- 1) oktober menem megmiddyl fyrjoga aktober och media oktober och media oktober och media oktober och media o
100% Sample	25.3	8.67			- ) i i i i i i i i i i i i i i i i i i
Meter ID:	6	PHO3			
Lab Water Control	25:4	9,91			Date: 8/7/08
6.25% Sample	25.4	9.99			WQ Time: 1113
12.5% Sample	25.4	993			WQ Signoff:
25% Sample	25.4	9.80			
50% Sample	25.4	9.65			
100% Sample	25.4	9731103		4 5 5	(1) (4) (4) (4) (4) (4) (4) (4) (4) (5) (5) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
Meter 1D:	6	PHO3			
Lab Water Control	25.4	10.22	11.2	171	Date 8/8/08
6.25% Sample	25.4	10.51	12-6	28 281	Termination Time /400
12.5% Sample	25,4	10.52	13.3	354350	Termination Signoff #8
25% Sample	25.4	16.36	11.5	16287754	WQ Time 1600 1708
50% Sample	25.4	10,51	12-8	757	WQ Signoff: HTA Ca
100% Sample	25.4	9,93	16-3	142	fine w
Meter ID:	6	PH09	POIM	ECOC	7117

Initial Test Conditions	Alkalinit	y	/ Hardness	Light Intensity (ftc)
	V 219	J	330	344

Report Date:

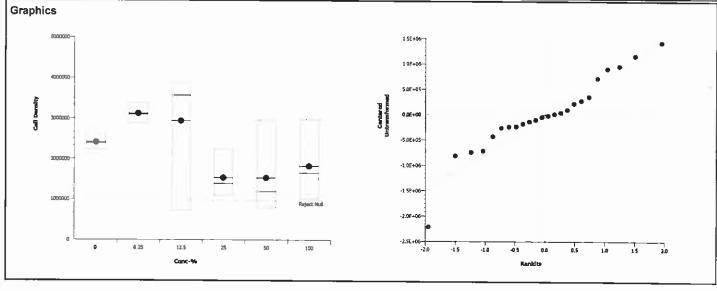
04 Sep-08 16:04 (p 1 of 1)

							Te:	st Code:			11-09	929-9390/2945 <sup>-</sup>
Selenastrum	Growth Test										P	acific EcoRisk
Start Date:	10-5186-3457 31 Jul-08 11:45 04 Aug-08 12:30 4d 1h	P S	est Type: rotocol: pecies: ource:	Cell Growth EPA/821/R-02 Selenastrum c In-House Cultu	apricornutun	n	Dil	alyst: uent: ne: e:	Not	n Jirasritum Applicable Applicable	rong	
'	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	M Se	ode: laterial: ource: tation:	NWDS-003 Ambient Water URS NWDS				ent: oject:	URS 134			
Comparison S	ummary								_	<u> </u>	<u> </u>	<u> </u>
Analysis No 07-6291-5247	Endpoint Cell Density		NOEL 100	<b>LOEL</b> >100	TOEL N/A	PMSD 59.8%	TU 1	Meth		Multiple Co	mpariso	n Test
Point Estimate	Summary						<u>-</u>			<del></del>		
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	od			
01-1157-0727	Cell Density		IC2.5 IC5 IC10 IC15 IC20 IC25 IC40 IC50	13.2 14 15.5 16.9 18.4 19.9 24.3 >100	2.67 2.83 3.17 3.5 3.83 4.16 5.16 N/A	13.8 15.1 17.7 20.3 22.9 25.7 N/A N/A	7.55 7.15 6.47 5.9 5.43 5.03 4.11	Linea	r Inte	erpolation (R	CPIN)	
Cell Density S								_				
		Count 4	Mean 2.41E+	95% LCL +6 2.35E+6	95% UCL 2.47E+6	Min 2.23E+6	Max 2.63E+6	Std E 3.04E		Std Dev 1.67E+5	CV% 6.92%	Diff%
6.25 12.5 25 50 100		4 4 4 4	3.12E- 2.94E- 1.53E- 1.53E- 1.82E-	3.03E+6 6 2.38E+6 6 1.34E+6 6 1.15E+6	3.20E+6 3.50E+6 1.72E+6 1.91E+6 2.13E+6	2.88E+6 7.23E+5 1.10E+6 7.87E+5 1.01E+6	3.39E+6 3.89E+6 2.25E+6 2.95E+6 2.98E+6	4.19E 2.74E 9.26E 1.85E	+4 +5 +4 +5	2.30E+5 1.50E+6 5.07E+5 1.01E+6 8.31E+5	7.37% 51.1% 33.1% 66.2% 45.6%	-29.3% -21.8% 36.4% 36.5%
Cell Density D	etail .			<del></del>								24,470
	Lab Water 2	Rep 1 2.63E+6 2.88E+6 3.84E+6 1.51E+6 2.95E+6	3.39E+ 3.89E+ 1.10E+ 8.15E+	6 2.98E+6 6 3.29E+6 6 1.27E+6 5 7.87E+5	Rep 4 2.23E+6 3.21E+6 7.23E+5 2.25E+6 1.57E+6 1.58E+6							

04 Sep-08 16:04 (p.1 of 1)

CETIS Ana	alytic	al Rep	ort						ort Date: Code:	04 \$	•	:04 (p 1 of 1) 9-9390/29451
Selenastrum	Growt	h Test										ific EcoRisk
Analysis No: Analyzed:		291-5247 ep-08 16:		Endpoint: Cel Analysis: Par	l Density ametric-Cor	ntrol vs Trea	tments		IS Version:	CETISv1	.6.5	
Data Transfo	rm		Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Untransforme	d			C>T	Not Run	-	100	>100	N/A	1	59.8%	<del></del>
Dunnett's Mu	iltiple (	Comparis	on Test									
Control	VS	Conc-%		Test Stat	Critical	MSD	P-Value	Decision(	(5%)			
Lab Water		6.25		-1,18	2.41	1440000	0.9890	Non-Signi	ficant Effect			
		12.5		-0.878	2.41	1440000	0.9760	Non-Signi	ficant Effect			
		25		1.47	2.41	1440000	0.2390	Non-Signi	ficant Effect			
		50		1.47	2.41	1440000	0.2380	Non-Signi	ficant Effect			
		100		0.981	2.41	1440000	0.4300	Non-Signi	ficant Effect			
ANOVA Table	<del>-</del>	_								_		
Source		Sum Squ	ares	Mean Squ	ıare	DF	F Stat	P-Value	Decision(	5%)		
Between		9.821524	E+12	1.964305	+12	5	2.74	0.0521		icant Effect		·
Error		1.291334	E+13	7.1740786	+11	18			J			
Total		2.273486	3073E+1	2.6817125	417E+12	23						
ANOVA Assu	mption	ns			<del></del>							
Attribute		Test			Test Stat	Critical	P-Value	Decision(	1%)			
Variances		Bartlett E	quality o	of Variance	14.4	15.1	0.0132	Equal Var				
Distribution		Shapiro-	Wilk Nor	mality	0.931		0.1020	Normal Di				
Cell Density S	Summa	iry								<u></u>		
Conc-%	Contr	ol Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab V	/ater	4	2.41E+6	2.35E+6	2.47E+6	2.23E+6	2.63E+6	3.10F+4	1.67F+5	6.92%	0.0%

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.41E+6	2.35E+6	2.47E+6	2.23E+6	2.63E+6	3.10E+4	1.67E+5	6.92%	0.0%
6.25		4	3.12E+6	3.03E+6	3.20E+6	2.88E+6	3.39E+6	4.26E+4	2.30E+5	7.37%	-29.3%
12.5		4	2.94E+6	2.37E+6	3.51E+6	7.23E+5	3.89E+6	2.79E+5	1.50E+6	51.1%	-21.8%
25		4	1.53E+6	1.34E+6	1.73E+6	1.10E+6	2.25E+6	9.42E+4	5.07E+5	33.1%	36.4%
50		4	1.53E+6	1.15E+6	1.92E+6	7.87E+5	2.95E+6	1.88E+5	1.01E+6	66.2%	36.5%
100		4	1.82E+6	1.51E+6	2.14E+6	1.01E+6	2.98E+6	1.54E+5	8.31E+5	45.6%	24.4%



Report Date:

04 Sep-08 16:04 (p 1 of 1)

Test Code:

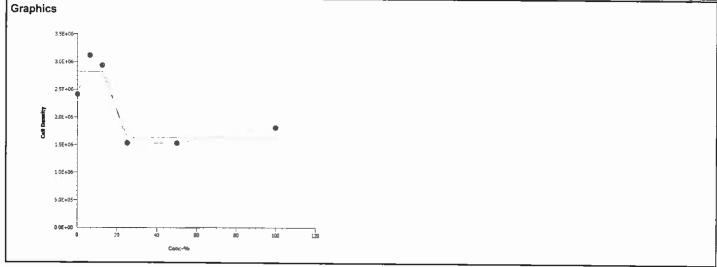
11-0929-9390/29451

Selenastrum	Growth Test			Pacific EcoRisk
Analysis No: Analyzed:	01-1157-0727 04 Sep-08 16:04	Cell Density Linear Interpolation (ICPIN)	CETIS Version: Official Results:	

Interpolat	ion Options				
sform	Y Transform	Seed	Resamples	Exp <b>95</b> %	CL Method
<u> </u>	Linear	7747401	280	Yes	Two-Point Interpolation
stimates					
Conc-%	95% LCL	95% UCL	τυ	95% LCL	95% UCL
13,2	2.67	13.8	7.55	7.25	37.5
14	2.83	15.1	7.15	6.63	35.3
15.5	3.17	17.7	6.47	5.66	31.6
16.9	3.5	20.3	5.9	4.93	28.6
18.4	3.83	22.9	5.43	4.37	26.1
19.9	4.16	25.7	5.03	3.89	24
24.3	5.16	N/A	4.11	N/A	19.4
>100	N/A	N/A	<1	N/A	N/A
	Stimates Conc-% 13.2 14 15.5 16.9 18.4 19.9 24.3	Linear  Stimates  Conc-% 95% LCL  13.2 2.67  14 2.83  15.5 3.17  16.9 3.5  18.4 3.83  19.9 4.16  24.3 5.16	Seed           Linear         7747401           Setimates           Conc-%         95% LCL         95% UCL           13.2         2.67         13.8           14         2.83         15.1           15.5         3.17         17.7           16.9         3.5         20.3           18.4         3.83         22.9           19.9         4.16         25.7           24.3         5.16         N/A	Sed         Resamples           Linear         7747401         280           Stimates           Conc-%         95% LCL         95% UCL         TU           13.2         2.67         13.8         7.55           14         2.83         15.1         7.15           15.5         3.17         17.7         6.47           16.9         3.5         20.3         5.9           18.4         3.83         22.9         5.43           19.9         4.16         25.7         5.03           24.3         5.16         N/A         4.11	Sed         Resamples         Exp 95%           Linear         7747401         280         Yes           Stimates           Conc-%         95% LCL         95% UCL         TU         95% LCL           13.2         2.67         13.8         7.55         7.25           14         2.83         15.1         7.15         6.63           15.5         3.17         17.7         6.47         5.66           16.9         3.5         20.3         5.9         4.93           18.4         3.83         22.9         5.43         4.37           19.9         4.16         25.7         5.03         3.89           24.3         5.16         N/A         4.11         N/A

Cell Densi	Cell Density Summary			Calculated Variate							
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%		
0	Lab Water	4	2.41E+6	2.23E+6	2.63E+6	3.04E+4	1.67E+5	6.92%	0.0%		
6.25		4	3.12E+6	2.88E+6	3.39E+6	4.19E+4	2.30E+5	7.37%	-29.3%		
12.5		4	2.94E+6	7.23E+5	3.89E+6	2.74E+5	1.50E+6	51.1%	-21.8%		
25		4	1.53E+6	1.10E+6	2.25E+6	9.26E+4	5.07E+5	33.1%	36.4%		
50		4	1.53E+6	7.87E+5	2.95E+6	1.85E+5	1.01E+6	66.2%	36.5%		
100		4	1.82E+6	1.01E+6	2.98E+6	1.52E+5	8.31E+5	45.6%	24.4%		

Cell Densi	ty Detail					
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Lab Water	2.63E+6	2.36E+6	2.42E+6	2.23E+6	
6.25		2.88E+6	3.39E+6	2.98E+6	3.21E+6	
12.5		3.84E+6	3.89E+6	3.29E+6	7.23E+5	
25		1.51E+6	1.10E+6	1.27E+6	2.25E+6	
50		2.95E+6	8.15E+5	7.87E+5	1.57E+6	
100		1.72E+6	1.01E+6	2.98E+6	1.58E+6	
0 11						



# Selenastrum capricornutum Cell Density Enumeration Data

 Client:
 URS: DMC
 Initial Count:
 10.000 cells/mL

 Test Material:
 NWDS-003-TOX
 Enumerating Scientist:
 2V2 

 Test Start Date:
 7 3 68
 Start Time:
 (1:45)
 Project #:
 12489

 Test End Date:
 9 4 68
 End Time:
 1239
 Test ID #:
 29451

		(	Cell Density (cells/ml	x 10°)	
Treatment	Rep A	<b>Rep B</b>	Rep C	Rep D	Mean
Lab Water Control	2.63	2.34	2.42	2.23	2.4)
6.25%	2.88	3.39	2.98	3.21	3.11
12.5%	3.84	3.89	3.29	0.723	2.94
25%	1.51	1.10	1.27	2.25	1.53
50%	2.95	0.815	0.787	1.57	1.53
100%	1.72	1.01	2.98	1.58	1.82
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.41	6.9	8-5-08	טס רו	MB

# **CETIS Summary Report**

Report Date: Test Code: 30 Sep-08 12:46 (p 1 of 1)

Code:

11-0929-9390/29451

Selenastrum (	Growth Test												Pacifi	c EcoRisk
Test Run No: Start Date: Ending Date: Duration:	10-5186-3457 31 Jul-08 11:45 04 Aug-08 12:30 4d 1h	Prot		EPA/ Seler	/821/R-02-0	pricornutum			Analy Dilue Brine Age:	nt:	Not A	Jirasritumr Applicable Applicable	ong	
-	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	Code Mate Sour Stati	erial: rce:						Clien Proje		URS 1348			
Comments:	Hemacytometer	counts.												
Comparison S	Summary												-	-
Analysis No	Endpoint		NOEL		LOEL	TOEL	PMSD	TU		Meth	od			
17-7483-9475	Cell Density	_	12.5		25	17.7	42.4%	8		Steel	Man	y-One Rank	Test	
Point Estimat	e Summary	-			<del></del>									
Analysis No	Endpoint		Level		Conc-%	95% LCL	95% UCL	TU		Meth	od			
13-8010-8638	Cell Density		IC2.5		4.7	N/A	17.9	21.3	3	Linea	r Inte	rpolation (I	CPIN)	
			IC5		7.29	N/A	17	13.7	7					
			IC10		10.4	1,11	16.6	9.61	1					
			IC15		12.8	3.38	16.5	7.81						
			IC20		13.7	4.09	17.3	7.27						
			IC25		14.7	4.5	18.2	6.81						
			IC40		17.5	5.39	20.7	5.71						
			IC50	_	19.4	5.88	22.5	5.16	<u> </u>					
Cell Density S	ummary													
Conc-%	Control Type	Count	Mean		95% LCL	95% UCL	Min	Max	(	Std E	Err	Std Dev	CV%	Diff%
0	Lab Water	4	3.61E	+6	3.52E+6	3.70E+6	3.24E+6	3.80	)E+6	4.59E	<u>=</u> +4	2.51E+5	6.96%	0.0%
6.25		4	3.49E	+6	3.32E+6	3.66E+6	2.89E+6	3.89	9E+6	8.108	E+4	4.44E+5	12.7%	3.32%
12.5		4	3.13E	+6	2.44E+6	3.82E+6	3.70E+5	4.25	5E+6	3.388	E+5	1.85E+6	59.2%	13.4%
25		4	6.08E	+5	4.22E+5	7.93E+5	2.00E+5	1.31	E+6	9.08	<b>E</b> +4	4.97E+5	81.9%	83.2%
50		4	7.18E	+5	3.91E+5	1.04E+6	2.10E+5	2.02	2E+6	1.608	E+5	8.74E+5	122.0%	80.1%
100	<del></del>	4	8.50E	+5	7.02E+5	9.98E+5	3.70E+5	1.32	2E+6	7.22	E+4	3.96E+5	46.5%	76.5%
Cell Density D	)etail													
Conc-%	Control Type	Rep 1	Rep 2		Rep 3	Rep 4								
0	Lab Water	3.80E+6	3.24E		3.71E+6	3.69E+6								
6.25		2.89E+6	3.89E	+6	3.75E+6	3.43E+6								
12.5		4.25E+6	4.14E	+6	3.75E+6	3.70E+5								
25		6.00E+5	2.00E	+5	3.20E+5	1.31E+6								
50		2.02E+6	2.20E	+5	2.10E+5	4.20E+5								
100		7.60E+5	3.70E	+5	1.32E+6	9.50E+5								

100\*

Report Date: Test Code:

Significant Effect

30 Sep-08 12:46 (p 1 of 1)

11-0929-9390/29451

Selenastrum (	Growth Test			Pacific EcoRisk
Analysis No:	17-7483-9475	Endpoint: Cell Density	CETIS Version:	CETISv1.6.5

Analyzed: 30 Sep-08 12:45 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

10

10

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD	
Untransformed		C > T	Not Run	12.5	25	17.7	8	42.4%	

Steel Many-C	ne Ra	nk Test					
Control	VS	Conc-%	Test Stat	Critical	Ties	P-Value	Decision(5%)
Lab Water		6.25	18	10	0	0.8330	Non-Significant Effect
		12.5	21	10	0	0.9780	Non-Significant Effect
		25*	10	10	0	0.0417	Significant Effect
		50*	10	10	0	0.0417	Significant Effect

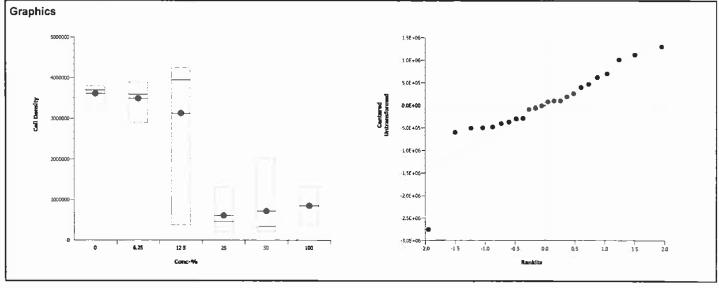
0.0417

0

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	4.385127E+13	8.770254E+12	5	10.8	0.0001	Significant Effect
Error	1.455882E+13	8.088236E+11	18			
Total	5.8410096656E+13	9.579077632E+12	23			

ANOVA Assumptions										
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)					
Variances	Bartlett Equality of Variance	14.4	15.1	0.0135	Equal Variances					
Distribution	Shapiro-Wilk Normality	0.859		0.0033	Non-normal Distribution					

Cell Density	y Summary										
Сопс-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	3.61E+6	3.51E+6	3.71E+6	3.24E+6	3.80E+6	4.67E+4	2.51E+5	6.96%	0.0%
6.25		4	3.49E+6	3.32E+6	3.66E+6	2.89E+6	3.89E+6	8.24E+4	4.44E+5	12.7%	3.32%
12.5		4	3.13E+6	2.42E+6	3.83E+6	3.70E+5	4.25E+6	3.44E+5	1.85E+6	59.2%	13.4%
25		4	6.08E+5	4.18E+5	7.97E+5	2.00E+5	1.31E+6	9.24E+4	4.97E+5	81.9%	83.2%
50		4	7.18E+5	3.85E+5	1.05E+6	2.10E+5	2.02E+6	1.62E+5	8.74E+5	122.0%	80.1%
100		4	8.50E+5	7.00E+5	1.00E+6	3.70E+5	1.32E+6	7.35E+4	3.96E+5	46.5%	76.5%



Report Date: Test Code: 30 Sep-08 12:46 (p 1 of 1)

11-0929-9390/29451

Selenastrum Growth	Test			P	acific EcoRisk
Analysis No: 13-801	10-8638 Endpoint:	Cell Density	CETIS Version:	CETISv1.6.5	_

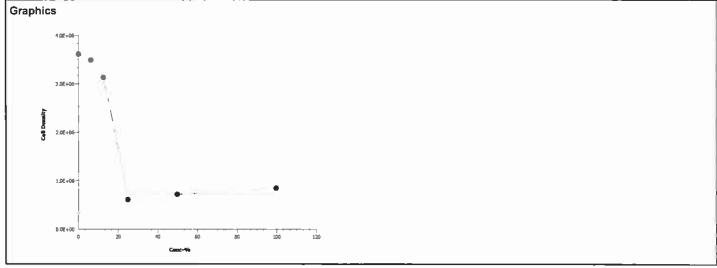
Analyzed: 30 Sep-08 12:45 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Linear Interpola	tion Options				
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	5334240	280	Yes	Two-Point Interpolation

Lincui		oui	0001210	200	100	Two realitimespolation
Point E	stimates		•			
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC2.5	4.7	N/A	17.9	21.3	5.59	N/A
IC5	7.29	N/A	17	13.7	5.87	N/A
IC10	10.4	1.11	16.6	9.61	6.04	90.1
IC15	12.8	3.38	16.5	7.81	6.06	29.6
IC20	13.7	4.09	17.3	7.27	5.76	24.4
IC25	14.7	4.5	18.2	6.81	5.5	22.2
IC40	17.5	5.39	20.7	5.71	4.83	18.5
IC50	19.4	5.88	22.5	5.16	4.45	17

Cell Densi	ty Summary			Calculated Variate						
Conc-%	Control Type Count		Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	3.61E+6	3.24E+6	3.80E+6	4.59E+4	2.51E+5	6.96%	0.0%	
6.25		4	3.49E+6	2.89E+6	3.89E+6	8.10E+4	4.44E+5	12.7%	3.32%	
12.5		4	3.13E+6	3.70E+5	4.25E+6	3.38E+5	1.85E+6	59.2%	13.4%	
25		4	6.08E+5	2.00E+5	1.31E+6	9.08E+4	4.97E+5	81.9%	83.2%	
50		4	7.18E+5	2.10E+5	2.02E+6	1.60E+5	8.74E+5	122.0%	80.1%	
100		4	8.50E+5	3.70E+5	1.32E+6	7.22E+4	3.96E+5	46.5%	76.5%	

Cell Densi	ity Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep <b>4</b>
0	Lab Water	3.80E+6	3.24E+6	3.71E+6	3.69E+6
6.25		2.89E+6	3.89E+6	3.75E+6	3.43E+6
12.5		4.25E+6	4.14E+6	3.75E+6	3.70E+5
25		6.00E+5	2.00E+5	3.20E+5	1.31E+6
50		2.02E+6	2.20E+5	2.10E+5	4.20E+5
100		7.60E+5	3.70E+5	1.32E+6	9.50E+5



# Selenastrum capricornutum Cell Density Enumeration Data

 Client:
 URS: DMC
 Initial Count:
 10,000 cells/mL

 Test Material:
 N W D S - 003 - Tox
 Enumerating Scientist:
 \*\*4 \*\* \*\*

 Test Start Date:
 7/31/08
 Start Time:
 11 45
 Project #:
 13489

 Test End Date:
 8/4/08
 End Time:
 12 30
 Test ID #:
 2 9451

	Cell Density (cells/ml x 10°)								
Treatment	Rep A	Rep B	Rep C	Rep D	Mean				
Lab Water Control	3.80	3.24	3.71	3.69	3.61				
6.25%	2.89	3.89	3.75	3.43	3.49				
12.5%	4.25	4.14	3.75	0.37	3.128				
25%	0.60	0.20	0.32	1.31	0.608				
50%	2.02	0.22	0.21	0.42	0.718				
100%	0.76	0.37	1.32	0.95	0.850				
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:				
Acceptability Criteria and/or other issues of concern.	3.61	6.96	8/07/08	15:50	Ko				

Hemocytometer Counts

# Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29451 Test Date: 7/31/08

Test Material: NWDS-003-TOX Project #: 13 489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	25.5	7.45	7.9	134	Date 7/31/08
6.25% Sample	25.5	1.72	3.0	185	Sample ID, 20180
12.5% Sample	25.5	7.75	8.1	234	Test Solution Prep (GL)
25% Sample	25.5	7.85	3.1	342	New WO MOTH
50% Sample	25.5	7.91	8.2	530	Innoculation Time 11:45
100% Sample	25.5	7.95	8.4	900	Innoculation Signoff: 20
Meter ID:	(3A	pH03	DOID	5005	
Lab Water Control	24.9	7.82			Date: 8.01.08
6.25% Sample	24.9	7-86			WQ Time: 1700
12.5% Sample	74.9	7.93			WQ Signoff: ASR
25% Sample	24.9	7.99		Sall Hard	
50% Sample	24.1	8.05			
100% Sample	24-9	8.40			
Meter ID:	15A	PH //			
Lab Water Control	24.7	8.85			Date 81408
6.25% Sample	24.7	9.05			WO Time: 10 2.S
12.5% Sample	24.7	9.13			WQ Signoff: HTA
25% Sample	24.7	8.95			
50% Sample	24.7	8.83			
100% Sample	24.7	8.72			
Meter ID:	41	PHUM			
Lab Water Control	24.9	9.56			Date: 8/3/08
6.25% Sample	24.9	9.88			WQ Time: 1645
12.5% Sample	24.9	9.93			WQ Signoff. HW
25% Sample	24.9	9.92			
50% Sample	24.9	9.75			
100% Sample	249	9.41			
Meter ID:	四年	PH II			
Lab Water Control	74.7	10-00	10-2	150	Date 8/4/68
6.25% Sample	24.7	10.16	16.4	197	Termination Time 1230
12.5% Sample	24.7	10.03		540	Termination Signoff: 74
25% Sample	247	9.98	11.1	342	WQ Time: 09%
50% Sample	77.7	10.39	13.7	537	WQ Signoff HM
100% Sample	74.7	9.61	12.4	867	
Meter ID:	41	PH09	000	eas	17.77

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	114	211	415

# **CETIS Summary Report**

Report Date: Test Code: 04 Sep-08 16:37 (p 1 of 1)

13-4031-2104/29783

			_						1621	coue.			12-402	-2104/29/
Selenastrum (	Growth Test		_										Paci	fic EcoRis
Start Date:	19-7777-8161 05 Aug-08 11:05 09 Aug-08 12:30 4d 1h	Pro Spe	t Type: tocol: cies:	EPA Sele	Growth V821/R-02-lenastrum ca louse Cultur	pricornutum	1		Analy Dilue Brine Age:	nt: e:	Not a	n Jirasritumr Applicable Applicable	ong	_
									Age.		<del>-</del>			<del></del>
Receive Date:	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 6d 10h (5 °C)	Sou	le: erial: irce: tion:						Clien Proje		URS 1348			
Comparison S	Summary									-				
Analysis No	Endpoint		NOEL		LOEL	TOEL	PMSD	TU		Meth	od			
02-2660-6569	Cell Density		50		100	70.7	33.0%	2				Multiple Cor	nparison 1	Test .
Point Estimate	e Summary					-								
Analysis No	Endpoint		Level		Conc-%	95% LCL	95% UCL	ΤU		Metho	od			
07-5406-8111	Cell Density		IC2.5		0.642	0.357	1.58	156		Linea	r Inte	rpolation (IC	CPIN)	
			IC5		1.28	0.715	3.17	77.9					ŕ	
			IC10		2.57	1.43	6.33	39						
			IC15		3.85	2.14	10.5	26						
			IC20		5.13	2.86	90.6	19.5						
			IC25		7.14	3.14	123	14						
			IC40		>100	N/A	N/A	<1						
			IC50		>100	N/A	N/A	<1						
Cell Density S	ummary													
	Control Type	Count	Mean		95% LCL	95% UCL	Min	Max	:	Std E	rr	Std Dev	CV%	Diff%
0	Lab Water	4	2.67E	+6	2.60E+6	2.74E+6	2.44E+6	2.85	E+6	3.41E	+4	1.87E+5	6.99%	0.0%
6.25		4	2.02E	+6	1.90E+6	2.14E+6	1.55E+6	2.33	E+6	6.06E	+4	3.32E+5	16.4%	24.3%
12.5		4	1.51E	+6	1.24E+6	1.78E+6	8.50E+5	2.54	E+6	1.32E	+5	7.22E+5	47.7%	43.4%
25		4	1.94E	+6	1.63E+6	2.24E+6	1.24E+6	3.04	E+6	1.49E	+5	8.18E+5	42.2%	27.4%
50		4	2.24E	+6	2.08E+6	2.40E+6	1.68E+6	2.61	E+6	7.94E	+4	4.35E+5	19.4%	16.0%
100		4	1.75E	+6	1.64E+6	1.85E+6	1.39E+6	2.08	E+6	5.25E	+4	2.88E+5	16.5%	34.6%
Cell Density D	etail													
	Control Type	Rep 1	Rep 2		Rep 3	Rep 4								
0	Lab Water	2.44E+6	2.79E	+6	2.60E+6	2.85E+6								
6.25		2.09E+6	1.55E	+6	2.11E+6	2.33E+6								
12.5		2.54E+6	1.37E	+6	8.50E+5	1.29E+6								
25		1.40E+6	1.24E	+6	3.04E+6	2.07E+6								
50		2.12E+6	2.61E	+6	2.56E+6	1.68E+6								
100		2.08E+6	1.69E	+6	1.39E+6	1.83E+6								

Report Date:

04 Sep-08 16:37 (p 1 of 1)

Test Code: 13-4031-2104/29783

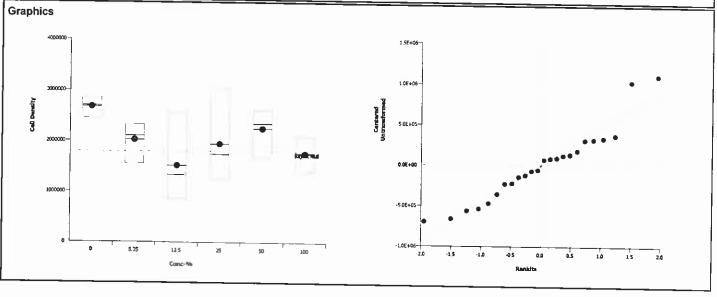
Jrow	th Test								Pacific EcoRisk
				ntrol vs Tre	atments				Sv1.6.5
	Zet	a Alt Hyp	Monte Ca	arlo	NOEL	LOEL	TOEL	TU	PMSD
		C > T	Not Run		50	100	70.7	2	33.0%
tiple	Comparison Te	st							
vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision	n(5%)		
	6.25	1.78	2.41	881000	0.1510				
	12.5*	3.16	2.41	881000	0.0110			^	
	02-2 04 \$ m	tiple Comparison Te vs Conc-% 6.25	02-2660-6569         Endpoint:         Ce           04 Sep-08 16:36         Analysis:         Par           m         Zeta         Alt Hyp           C > T         C           tiple Comparison Test         Vs         Conc-%           6.25         1.78	02-2660-6569         Endpoint:         Cell Density           04 Sep-08 16:36         Analysis:         Parametric-Co           m         Zeta         Alt Hyp         Monte Co           C > T         Not Run           tiple Comparison Test         Test Stat         Critical           6.25         1.78         2.41	02-2660-6569         Endpoint:         Cell Density           04 Sep-08 16:36         Analysis:         Parametric-Control vs Tre           m         Zeta         Alt Hyp         Monte Carlo           C > T         Not Run           tiple Comparison Test         Vs         Conc-%         Test Stat         Critical         MSD           6.25         1.78         2.41         881000	02-2660-6569         Endpoint:         Cell Density           04 Sep-08 16:36         Analysis:         Parametric-Control vs Treatments           m         Zeta         Alt Hyp         Monte Carlo         NOEL           C > T         Not Run         50           tiple Comparison Test           vs         Conc-%         Test Stat         Critical         MSD         P-Value           6.25         1.78         2.41         881000         0.1510	02-2660-6569         Endpoint:         Cell Density         CE           04 Sep-08 16:36         Analysis:         Parametric-Control vs Treatments         Off           m         Zeta         Alt Hyp         Monte Carlo         NOEL         LOEL           C > T         Not Run         50         100           tiple Comparison Test         vs         Conc-%         Test Stat         Critical         MSD         P-Value         Decision           6.25         1.78         2.41         881000         0.1510         Non-Sign	02-2660-6569         Endpoint:         Cell Density         CETIS Version           04 Sep-08 16:36         Analysis:         Parametric-Control vs Treatments         Official Results           m         Zeta         Alt Hyp         Monte Carlo         NOEL         LOEL         TOEL           C > T         Not Run         50         100         70.7           tiple Comparison Test         vs         Conc-%         Test Stat         Critical         MSD         P-Value         Decision(5%)           6.25         1.78         2.41         881000         0.1510         Non-Significant Effect	02-2660-6569         Endpoint: Odl Density         CETIS Version: Official Results: Yes           04 Sep-08 16:36         Analysis: Parametric-Control vs Treatments         Official Results: Yes           m         Zeta         Alt Hyp         Monte Carlo         NOEL         LOEL         TOEL         TU           C > T         Not Run         50         100         70.7         2           tiple Comparison Test         vs         Conc-%         Test Stat         Critical         MSD         P-Value         Decision(5%)           6.25         1.78         2.41         881000         0.1510         Non-Significant Effect

Control	vs Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water	6.25	1.78	2.41	881000	0.1510	Non-Significant Effect
1	12.5*	3.16	2.41	881000	0.0110	Significant Effect
	25	2	2.41	881000	0.1040	Non-Significant Effect
	50	1.17	2.41	881000	0.3500	Non-Significant Effect
	100*	2.52	2.41	881000	0.0403	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	3.242433E+12	6.484866E+11	5	2.42	0.0761	
Error	4.8233E+12	2.679611E+11	18	2.42	0.0761	Non-Significant Effect
Total	8.0657336238E+12	9.1644775629E+11	23			

ANOVA Assumpt	ions				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	7.62	15.1	0.1780	Equal Variances
Distribution	Shapiro-Wilk Normality	0.937		0.1370	Normal Distribution
					TOTAL DIGITATION

Сопс-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
U	Lab Water	4	2.67E+6	2.60E+6	2.74E+6	2.44E+6	2.85E+6	3.47E+4	1.87E+5	6.99%	0.0%
6.25		4	2.02E+6	1.89E+6	2.15E+6	1.55E+6	2.33E+6	6.16E+4	3.32E+5	16.4%	24.3%
12.5		4	1.51E+6	1.24E+6	1.79E+6	8.50E+5	2.54E+6	1.34E+5	7.22E+5	47.7%	43.4%
25		4	1.94E+6	1.63E+6	2.25E+6	1.24E+6	3.04E+6	1.52E+5	8.18E+5	42.2%	27.4%
50		4	2.24E+6	2.08E+6	2.41E+6	1.68E+6	2.61E+6	8.07E+4	4.35E+5	19.4%	16.0%
100		4	1.75E+6	1.64E+6	1.86E+6	1.39E+6	2.08E+6	5.34E+4	2.88E+5	16.5%	34.6%



>100

>100

IC40

IC50

N/A

N/A

N/A

N/A

Report Date: Test Code:

04 Sep-08 16:37 (p 1 of 1)

13-4031-2104/29783

Selenastrum Growth Test Pacific EcoRisk

Analysis No: 07-5406-8111 Endpoint: Cell Density **CETIS Version:** CETISv1.6.5

Linear Interpolation (ICPIN) Analyzed: 04 Sep-08 16:36 Analysis: Official Results: Yes

<1

<1

Linear	interpolat	ion Options						
X Trans	sform	Y Transform	Seed	Resamples	Exp <b>95</b> %	CL	Method	!
Linear	_	Linear	453528	280	Yes	•	Two-Point Interpolation	
Point E	stimates							
Level	Сопс-%	95% LCL	95% UCL	TU	95% LCL	95%	UCL	
IC2.5	0.642	0.357	1.58	156	63.2	280		-
IC5	1.28	0.715	3.17	77.9	31.6	140		
IC10	2.57	1.43	6.33	39	15.8	70		
IC15	3.85	2.14	10.5	26	9.53	46.6		
1C20	5.13	2.86	90.6	19.5	1.1	35		
IC25	7.14	3.14	123	14	0.811	31.9		

N/A

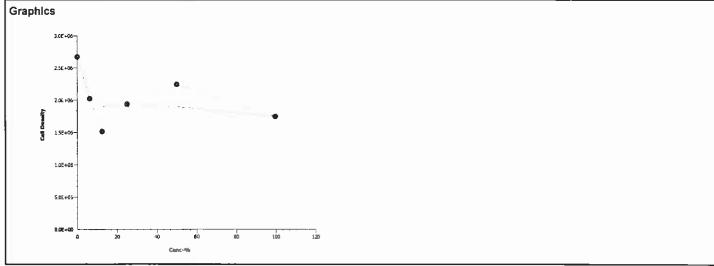
N/A

N/A

N/A

Cell Densi	Cell Density Summary			Calculated Variate							
Conc-%	<b>Control Type</b>	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%		
0	Lab Water	4	2.67E+6	2.44E+6	2.85E+6	3.41E+4	1.87E+5	6.99%	0.0%		
6.25		4	2.02E+6	1.55E+6	2.33E+6	6.06E+4	3.32E+5	16.4%	24.3%		
12.5		4	1.51E+6	8.50E+5	2.54E+6	1.32E+5	7.22E+5	47.7%	43.4%		
25		4	1.94E+6	1.24E+6	3.04E+6	1.49E+5	8.18E+5	42.2%	27.4%		
50		4	2.24E+6	1.68E+6	2.61E+6	7.94E+4	4.35E+5	19.4%	16.0%		
100		4	1.75E+6	1.39E+6	2.08E+6	5.25E+4	2.88E+5	16.5%	34.6%		

Cell Densi	ty Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep <b>4</b>
0	Lab Water	2.44E+6	2.79E+6	2.60E+6	2.85E+6
6.25		2.09E+6	1.55E+6	2.11E+6	2.33E+6
12.5		2.54E+6	1.37E+6	8.50E+5	1.29E+6
25		1.40E+6	1.24E+6	3.04E+6	2.07E+6
50		2.12E+6	2.61E+6	2.56E+6	1.68E+6
100		2.08E+6	1.69E+6	1.39E+6	1.83E+6



Client:	URS: DMC	Initial Count:	10,000 cells/mL
Test Material:	NWDS-003-TOX	Enumerating Scientist:	84
Test Start Date:	8/5/08 Start Time: 1105	Project #:	13489
Test End Date:	<u> </u>	Test ID #:_	29451 19783

		C	ell Density (cells/ml	x 10°)	
Treatment	Rep A	Rep B	Rep C	Rep D	Mean
Lab Water Control	2.44	2.79	2.60	2.85	2.67
6.25%	2.09	1.55	2.11	2.33	2.02
12.5%	2.54	1.37	0.850	1.29	1.51
25%	1.40	1.24	3.04	2.07	1.94
50%	2.12	2.61	2.56	1-68	2.24
100%	2.08	1.69	1.39	1.83	1.75
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10 <sup>6</sup> )	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2-67	7.0%	8/9/08	1730	m

#### Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29451 39783 Test Date: 8/5/08

Test Material: NWDS-003-TOX Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Conductivity Test Treatment Temp (°C) pΗ D.O. (mg/L)Sign-Off (µS/cm) 24.8 156 Lab Water Control 7.59 Date 8/5/08 8.7 Sample 10 20180 6.25% Sample 7.73 8-1 248 200 Test Solution Prep: MC 8.7 12.5% Sample 7.44 248 243 8.1 New WQ 700 25% Sample 7.60 24.8 357 Innoculation Time: 1105 7.44 8.8 50% Sample 529 248 Innoculation Signoff 100% Sample 7.46 8.8 890 24.8 Meter 1D: PHOP 6 D012 2604 7.41 Lab Water Control 25,0 816/08 1-59MR 7.65 6.25% Sample 25,0 205AJR 12.5% Sample 7.70 248 A3R 25,0 25% Sample 75.0 7.90 36-3ADR 8.05 50% Sample 25.0 S40All 100% Sample 8.19 9+18 MP 25.0 ECOSM Meter ID: PH03 11 Lab Water Control 8.56 25.0 6.25% Sample 25.0 12.5% Sample 25.0 .90 25% Sample 25.0 50% Sample 8.69 92.0 100% Sample 8.67 25.0 Meter ID: P4403 11 Lab Water Control 24.9 10.14 8/8/08 WQ Time: /650 6.25% Sample 10.20 24.9 WQ Signoff: 12.5% Sample 24.9 10.15 25% Sample 24.9 10.03 50% Sample 9.74 W.1 100% Sample 9.71 24.9 Meter ID: P# 1( 11 Lab Water Control Date: 1/3/01 25.1 10.44 2.6 111 Termination Time [230] 25.1 6.25% Sample 10.09 208 10.2 12.5% Sample 25.1 Termination Signoff 8.6 5.73 257 25.1 25% Sample 345 9. 93 8.8 WQ Signoff: 536 50% Sample 25.1 9.4 10-33 100% Sample 25.1 9.3 845 J.76 Meter ID: phay 11 most teos

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	/ 112	J 200	405

Report Date:

04 Sep-08 16:26 (p 1 of 1)

									Test (	Code:			02-1	1083-56	97/294
Selenastrum (	Growth Test					-							F	Pacific	EcoRis
Test Run No:	01-0348-4871	Tes	t Type:	Cel	l Growth		<del></del>		Analy	 /st:	Johr	Jirasritum	rong		
Start Date:	01 Aug-08 14:05	Pro	tocol:	EP/	A/821/R-02-	013 (2002)			Dilue	nt:	Not /	Applicable	•		
Ending Date:	05 Aug-08 14:15	Spe	cies:	Sel	enastrum ca	pricornutum	1		Brine			Applicable			
Duration:	4d 0h	Sou	rce:	In-F	louse Cultu	re			Age:		7				
Sample No:	20-9391-4618	Cod	le:	NW	/DS-004				Clien	t:	URS	<del></del>			<del></del>
Sample Date:	31 Jul-08 06:40	Mat	erial:	Am	bient Water				Proje	ct:	1348	9			
Receive Date:	31 Jul-08 12:04	Sou	rce:	UR	S										
Sample Age:	31h (13.4 °C)	Stat	ion:	NW	/DS										
Comparison S	Summary								_	_					
Analysis No	Endpoint		NOEL		LOEL	TOEL	PMSD	TU		Metho	od				
03-5883-1064 	Cell Density		100		>100	N/A	14.8%	1		Dunne	ett's l	Multiple Co	mparis	on Tes	1
Point Estimate	e Summary											<del></del>			
Analysis No	Endpoint		Level		Conc-%	95% LCL	95% UCL	TU		Metho	od				
19-3048-8839	Cell Density		IC2.5		>100	N/A	N/A	<1		Linear	Inte	rpolation (I	CPIN)		
			IC5		>100	N/A	N/A	<1					•		
			IC10		>100	N/A	N/A	<1							
			IC15		>100	N/A	N/A	<1							
			IC20		>100	N/A	N/A	<1							
			IC25		>100	N/A	N/A	<1							
			IC40		>100	N/A	N/A	<1							
			IC50		>100	N/A	N/A	<1							
Cell Density S	ummary						-		_						
		Count	Mean		95% LCL	95% UCL	Min	Мах		Std E	rr	Std Dev	CV%	ı	Diff%
	Lab Water 4	4	2.57E	+6	2.53E+6	2.61E+6	2.47E+6	2.69	E+6	1.92E	+4	1.05E+5	4.1%	1	0.0%
6.25	4	4	3.00E	+6	2.96E+6	3.04E+6	2.88E+6	3,16	E+6	2.18E	+4	1.19E+5	3.97	%	-16.8%
12.5	4	4	3.29E	+6	3.24E+6	3.33E+6	3.16E+6	3.46	E+6	2.30E	+4	1.26E+5	3.849	%	-27.9%
25	4	4	3.23E	+6	3.14E+6	3.32E+6	3.07E+6	3.59	E+6	4.47E	+4	2.45E+5	7.589	%	-25.7%
50	4	4	3.42E	+6	3.33E+6	3.50E+6	3.25E+6	3.73	E+6	4.09E	+4	2.24E+5	6.569		-33.1%
100		4	3.45E	+6	3.31E+6	3.60E+6	2.91E+6	3.80	E+6	7.00E	+4	3.84E+5	11.19		-34.5%
Cell Density D	etail														
		Rep 1	Rep 2		Rep 3	Rep 4									
	Lab Water 2	2.47E+6	2.49E	+6	2.62E+6	2.69E+6								•	
6.25	2	2.88E+6	3.16E	+6	3.01E+6	2.95E+6									
12.5	3	3.27E+6	3.46E	+6	3.25E+6	3.16E+6									
25	3	3.59E+6	3.09E	+6	3.07E+6	3.16E+6									
50	3	3.25E+6	3.73E	+6	3.43E+6	3.26E+6									
100		0.45.0	2 225		0.405.0										

100

3.61E+6

3.80E+6 3.49E+6 2.91E+6

Report Date:

04 Sep-08 16:26 (p 1 of 1)

Test Code:

02-1083-5697/29452

	Selenastrum (	Frowth Test					2-1000-3091129452
							Pacific EcoRisk
	Analysis No:	040	-	Cell Density	CETIS Version:	CETISv1.6.5	
-		0+0cp-00 10.23	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes	

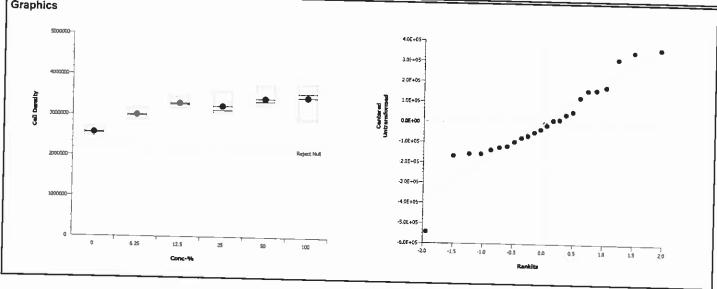
Data Transform Zeta Untransformed	Alt Hyp C > T	Monte Car Not Run	lo NO		TOEL N/A	TU 1	PMSD 14.8%
Dunnett's Multiple Comparison Test							
Control vs Conc-%	Test Stat	Critical	MSD DV	alua Buri			

Control							
	VS	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water		6.25	-2.74	2.41	380000	1.0000	Non-Significant Effect
		12.5	-4.55	2.41	380000	1.0000	Non-Significant Effect
		25	-4.19	2.41	380000	1.0000	Non-Significant Effect
		50	-5.39	2.41	380000	1.0000	
_		100	-5.61	2.41	380000	1.0000	Non-Significant Effect Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	D. VI	
Between	2.194733E+12				P-Value	Decision(5%)
	2.134733E+12	4.389467E+11	5	8.83	0.0002	Significant Effect
Error	8.952E+11	49733330000	40	7.00	0.0002	Significant Effect
Total	0.0000		18			
TOTAL	3.0899332710E+12	4.8867999334E+11	23			

ANOVA ASSUM	ptions				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances Distribution	Bartlett Equality of Variance Shapiro-Wilk Normality	6.94 0.933	15.1	0.2250 0.1160	Equal Variances Normal Distribution
Cell Density Su	ттагу				

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	O) (0)	
0	Lab Water	4	2.57E+6	2.53E+6	2.61E+6	2.47E+6				CV%	Diff%
6.25		4	3.00E+6				2.69E+6	1.96E+4	1.05E+5	4.1%	0.0%
12.5			3.00E+6	2.95E+6	3.05E+6	2.88E+6	3.16E+6	2.21E+4	1.19E+5	3.97%	-16.8%
		4	3.29E+6	3.24E+6	3.33E+6	3.16E+6	3.46E+6	2.34E+4	1.26E+5		
25		4	3.23E+6	3.13E+6	3.32E+6	3.07E+6	•			3.84%	-27.9%
50		4			· · · · · ·		3.59E+6	4.54E+4	2.45E+5	7.58%	-25.7%
100			3.42E+6	3.33E+6	3.50E+6	3.25E+6	3.73E+6	4.16E+4	2.24E+5	6.56%	-33.1%
100		4	3.45E+6	3.31E+6	3.60E+6	2.91E+6	3.80E+6	7.12E+4	3.84E+5	11.1%	-34.5%



IC40

IC50

>100

>100

N/A

N/A

N/A

N/A

Report Date: Test Code: 04 Sep-08 16:26 (p 1 of 1)

02-1083-5697/29452

				1031 0040:		000-3097729432
Selenastrum	Growth Test				P	acific EcoRisk
Analysis No: Analyzed:	19-3048-8839 04 Sep-08 16:25	•	Cell Density Linear Interpolation (ICPIN)	CETIS Version: C Official Results: Y	CETISv1.6.5 Yes	

Linear	Interpolati	on Options			_		
X Trans Linear		Y Transform Linear	Seed 7090379	Resamples 280	Exp 95% Yes		Method Two-Point Interpolation
Point E	stimates					<u> </u>	
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95%	UCL
IC2.5	>100	N/A	N/A	<1	N/A	N/A	<u> </u>
IC5	>100	N/A	N/A	<1	N/A	N/A	
IC10	>100	N/A	N/A	<1	N/A	N/A	
IC15	>100	N/A	N/A	<1	N/A	N/A	
IC20	>100	N/A	N/A	<1	N/A	N/A	
IC25	>100	N/A	N/A	<1	N/A	N/A	

Cell Densi	Cell Density Summary			Calculated Variate						
Сопс-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.57E+6	2.47E+6	2.69E+6	1.92E+4	1.05E+5	4.1%	0.0%	
6.25		4	3.00E+6	2.88E+6	3.16E+6	2.18E+4	1.19E+5	3.97%	-16.8%	
12.5		4	3.29E+6	3.16E+6	3.46E+6	2.30E+4	1.26E+5	3.84%	-27.9%	
25		4	3.23E+6	3.07E+6	3.59E+6	4.47E+4	2.45E+5	7.58%	-25.7%	
50		4	3.42E+6	3.25E+6	3.73E+6	4.09E+4	2.24E+5	6.56%	-33.1%	
100		4	3.45E+6	2.91E+6	3.80E+6	7.00E+4	3.84E+5	11.1%	-34.5%	

N/A

N/A

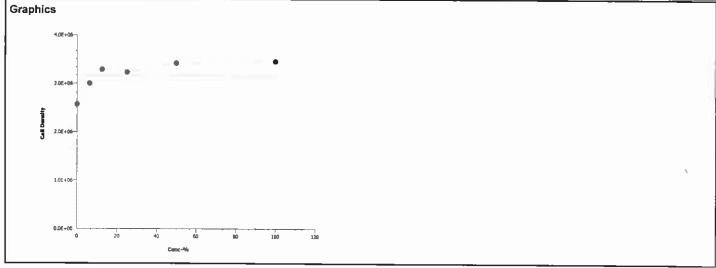
N/A

N/A

<1

<1

Cell Densi	ty Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	2.47E+6	2.49E+6	2.62E+6	2.69E+6
6.25		2.88E+6	3.16E+6	3.01E+6	2.95E+6
12.5		3.27E+6	3.46E+6	3.25E+6	3.16E+6
25		3.59E+6	3.09E+6	3.07E+6	3.16E+6
50		3.25E+6	3.73E+6	3.43E+6	3.26E+6
100		3.61E+6	3.80E+6	3.49E+6	2.91E+6



Client:	URS: DMC	Initial Count:	10,000 cells/mL_
Test Material:	NWDS-004-TOX	Enumerating Scientist:	<10
Test Start Date: 3(1) 8	Start Time: 1405	Project #:	13489
Test End Date: 8/5/08	End Time: 1415	Test ID #:_	29452

		C	ell Density (cells/ml)	x 10°)	
Treatment	Rep A	Rep B	Rep C	Rep D	Mean
Lab Water Control	2.47	2.49	2.62	2.69	2.57
6.25%	2.88	3.16	3.01	2.95	3.06
12.5%	3.27	3.46	3.25	3.14	3.28
25%	3.59	3.09	3.07	3.16	3.23
50%	3.25	3.73	3.43	3.26	3 .42
100%	3.61	3.80	3.49	2.91	3.45
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.57	4.1	8-508	1.607	XB

### Selenastrum capricornutum Algal Toxicity Test Water Quality Data

 Client:
 URS: DMC
 Test ID #: 29452
 Test Date:
 8 (ot lost

 Test Material:
 NWDS-004-TOX
 Project #: 13489
 Control/Diluent:
 Algal medium, W/O EDTA

					R351
Test Treatment	Temp (°C)	рН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	24.7	7.55	8.1	161	Date 8/01/08
6.25% Sample	24.7	7.69	8.4	188	Sample ID 20/9°C
12.5% Sample	24.7	7.65	8.4	217	Test Solution Prep.
25% Sample	24-7	7.73	8.4	269	New WQ:
50% Sample	24.7	7.85	8.3	376	Innoculation Time 1405
100% Sample	24-7	8.01	8.4	588	Innoculation Signoff. Ko
Meter ID:	12	phog	0010	Fus	
Lab Water Control	24.7	8.18			Date: 8/2/68
6.25% Sample	24.7	8.04			WQ Time: 1045
12.5% Sample	54.)	7.97			WQ Signoff: HTA
25% Sample	24.7	7.97			
50% Sample	24.1	8.02			
100% Sample	٦.٢.٦	F.17			
Meter ID:	41	PHOY			
Lab Water Control	25.0	4.57			Date: 8/3/08
6.25% Sample	25.0	8.40			WQ Time:
12.5% Sample	25.0	8-60			WQ Signoff: 240
25% Sample	25.0	8,71			
50% Sample	25.0	9365			
100% Sample	14.0	8.62			
Meter ID:	12	PHII			
Lab Water Control	24.7	9 44 9.87			Date: 8/4/08
6.25% Sample	247	9.65			WQ Time: 0925
12.5% Sample	24,7	9.72			WQ Signoff: HT4
25% Sample	24.7	9.63			The state of the s
50% Sample	24.7	9.57			
100% Sample	24.7	9.33			
Meter ID:	પા	PHOG			
Lab Water Control	24.8	10.10 10.2°	1 13.7	484.178	Date. 8/5/08
6.25% Sample	24.8	1011 <del>00-10</del>	12.9	283 P9	Termination Time: 14(5
12.5% Sample	24.8	10 15	P12_5 K)	N296233	
25% Sample	24.8	10.26 <sup>10.2</sup>	2 14.16.5	45 <del>4 09</del> 280	WQ Time 1245
50% Sample	24.8	ריטו דיט - טדיין	13.7	10 311	WQ Signoff:
100% Sample	24.8	16.00 10.20	17.9	N 993 569	
Meter ID:	12	PHOP	bo12	Ec04	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	87 /	209	401

### **CETIS Summary Report**

Report Date:

04 Sep-08 15:45 (p 1 of 1) 08-0022-2318/29454

Test Code: 08-

Selenastrum	Growth Test									_	Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	12-7335-6457 30 Jul-08 10:45 03 Aug-08 11:1 4d 1h	<b>Pro</b> 5 <b>Sp</b>	st Type: otocol; ecies: ource:	Cell Growth EPA/821/R-02 Selenastrum of In-House Culti	apricornutum	1	D B	nalyst: iluent: rine: ge:	Not /	Jirasritum Applicable Applicable	rong	
Sample No:	07-9557-0216	Co	de:	SJRDS-001			С	lient:	URS			
Sample Date:	29 Jul-08 08:00	Ma	iterial:	Ambient Wate	г		Р	roject:	1348	9		
Receive Date:	: 29 Jul-08 11:50	So	urce:	URS								
Sample Age:	27h (18.1 °C)	Sta	ation:	SJRDS								
Comparison S	Summary										<del></del>	
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	od			
06-8245-4183	Cell Density		100	>100	N/A	13.5%	1	Dunr	ett's l	Multiple Co	mparison T	est
Point Estimat	e Summary				<u></u>		_					
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	od			
00-8942-7099	Cell Density		IC2.5	>100	N/A	N/A	<1	Linea	ır Inte	rpolation (I	CPIN)	
			IC5	>100	N/A	N/A	<1					
			IC10	>100	N/A	N/A	<1					
			IC15	>100	N/A	N/A	<1					
			IC20	>100	N/A	N/A	<1					
			IC25	>100	N/A	N/A	<1					
			IC40	>100	N/A	N/A	<1					
			IC50	>100	N/A	N/A	<1	_				
Cell Density S	ummary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.16E	+6 2.13E+6	2.20E+6	2.04E+6	2.27E+	6 1.75	<u>+4</u>	9.57E+4	4.43%	0.0%
6.25		4	2.81E	_	2.89E+6	2.56E+6	3.03E+	6 3.916	E+4	2.14E+5	7.63%	-29.9%
12.5		4	3.09E-	+6 3.05E+6	3.13E+6	2.93E+6	3.18E+	·6 2.03E	+4	1.11E+5	3.59%	-43.0%
25		4	3.16E	+6 3.08E+6	3.24E+6	2.85E+6	3.33E+	6 3.898	+4	2.13E+5	6.74%	-46.0%
50		4	3.23E-	+6 3.15E+6	3.30E+6	2.95E+6	3.42E+	6 3.76	<u>+4</u>	2.06E+5	6.39%	-49.2%
100		4	3.60E-	+6 3.55E+6	3.66E+6	3.47E+6	3.81E+	6 2.66	+4	1.46E+5	4.05%	-66.6%
Cell Density D	etail etail									_		
Conc-%	Control Type	Rep 1	Rep 2		Rep 4							
0	Lab Water	2.19E+6	2.04E-		2.15E+6	-						
6.25		2.94E+6	2.71E-	+6 3.03E+6	2.56E+6							
12.5		2.93E+6	3.12E-	+6 3.14E+6	3.18E+6							
25		3.33E+6	3.19E	+6 2.85E+6	3.26E+6							
50		3.34E+6	2.95E-	+6 3.42E+6	3.20E+6							
100		3.47E+6	3.58E+	+6 3.55E+6	3.81E+6							

Report Date:

04 Sep-08 15:45 (p 1 of 1)

Test Code: 08-0022-2318/29454

Selenastrum	Growth Test				_	Pacific EcoRisk
Analysis No: Analyzed:	06-8245-4183 04 Sep-08 15:44	•	Cell Density Parametric-Control vs Treatments	CETIS Version: Official Results:		

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD	
Untransformed		C > T	Not Run	100	>100	N/A	1	13.5%	

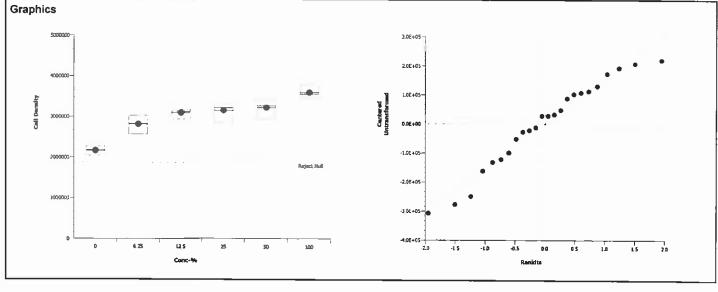
Dunnett's Multiple Comparison Test	

Control	vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water		6.25	-5.34	2.41	292000	1.0000	Non-Significant Effect
		12.5	-7.67	2.41	292000	1.0000	Non-Significant Effect
		25	-8.2	2.41	292000	1.0000	Non-Significant Effect
		50	-8.78	2.41	292000	1.0000	Non-Significant Effect
		100	-11.9	2.41	292000	1.0000	Non-Significant Effect

ANOVA Table	-				_	
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	4.740688E+12	9.481375E+11	5	32.2	0.0000	Significant Effect
Error	5.29575E+11	29420830000	18			•
Total	5.2702625792E+12	9.7755832525E+11	23			

ANOVA ASSUM	otions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Bartlett Equality of Variance	2.96	15.1	0.7070	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.954		0.3280	Normal Distribution	

Cell Densit	y Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.16E+6	2.13E+6	2.20E+6	2.04E+6	2.27E+6	1.78E+4	9.57E+4	4.43%	0.0%
6.25		4	2.81E+6	2.73E+6	2.89E+6	2.56E+6	3.03E+6	3.98E+4	2.14E+5	7.63%	-29.9%
12.5		4	3.09E+6	3.05E+6	3.13E+6	2.93E+6	3.18E+6	2.06E+4	1.11E+5	3.59%	-43.0%
25		4	3.16E+6	3.08E+6	3.24E+6	2.85E+6	3.33E+6	3.95E+4	2.13E+5	6.74%	-46.0%
50		4	3.23E+6	3.15E+6	3.31E+6	2.95E+6	3.42E+6	3.83E+4	2.06E+5	6.39%	-49.2%
100		4	3.60E+6	3.55E+6	3.66E+6	3.47E+6	3.81E+6	2.71E+4	1.46E+5	4.05%	-66.6%



Report Date: Test Code: 04 Sep-08 15:45 (p 1 of 1) 08-0022-2318/29454

Pacific EcoRisk

Selenastrum Growth Test Pac

Analysis No: 00-8942-7099 Endpoint: Cell Density CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 15:45 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

l	Linear	Interpolation	Options	
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X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	5795186	280	Yes	Two-Point Interpolation

#### Point Estimates

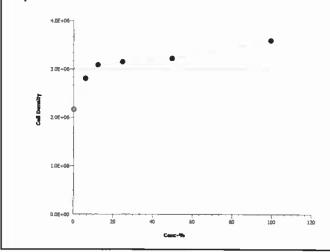
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC2.5	>100	N/A	N/A	<1	N/A	N/A
IC5	>100	N/A	N/A	<1	N/A	N/A
IC10	>100	N/A	N/A	<1	N/A	N/A
IC15	>100	N/A	N/A	<1	N/A	N/A
IC20	>100	N/A	N/A	<1	N/A	N/A
IC25	>100	N/A	N/A	<1	N/A	N/A
IC40	>100	N/A	N/A	<1	N/A	N/A
IC50	>100	N/A	N/A	<1	N/A	N/A

Cell Dens	ity Summary				Ca	Iculated Va	riate		
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.16E+6	2.04E+6	2.27E+6	1.75E+4	9.57E+4	4.43%	0.0%
6.25		4	2.81E+6	2.56E+6	3.03E+6	3.91E+4	2.14E+5	7.63%	-29.9%
12.5		4	3.09E+6	2.93E+6	3.18E+6	2.03E+4	1.11E+5	3.59%	-43.0%
25		4	3.16E+6	2.85E+6	3.33E+6	3.89E+4	2.13E+5	6.74%	-46.0%
50		4	3.23E+6	2.95E+6	3.42E+6	3.76E+4	2.06E+5	6.39%	-49.2%
100		4	3.60E+6	3.47E+6	3.81E+6	2.66E+4	1.46E+5	4.05%	-66.6%

#### Cell Density Detail

	•				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	2.19E+6	2.04E+6	2.27E+6	2.15E+6
6.25		2.94E+6	2.71E+6	3.03E+6	2.56E+6
12.5		2.93E+6	3.12E+6	3.14E+6	3.18E+6
25		3.33E+6	3.19E+6	2.85E+6	3.26E+6
50		3.34E+6	2.95E+6	3.42E+6	3.20E+6
100		3.47E+6	3.58E+6	3.55E+6	3.81E+6

#### Graphics



Client: _		URS: DMC		Initial Count:	10,000 cells/mL	
Test Material:		SJRDS-001-TOX		Enumerating Scientist:	5:19	
Test Start Date:	7/30/08	Start Time:	1045	Project #:	13489	
Test End Date:	8/3/04	End Time:	1115	Test ID #:_	29454	

		C	ell Density (cells/ml	( 10%)	
Treatment	Rep A	<b>Rep B</b>	Rep C	Rep D	Mean
Lab Water Control	2.19	2.04	2.27	2.15	2.16
6.25%	2.94	271	3. 03	2.56	2.81
12.5%	2.93	3.12	3.14	3.18	3.09
25%	3.33	3.19	2.85	324	3.16
50%	3.34	2.95	3.42	3.20	3.23
100%	3.47	358	3.55	3.81	3.60
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.16	4.4	8/3/08	18:30	26

## Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29454 Test Date: 7/35/08

Test Material: SJRDS-001-TOX Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	24.8	7.60	8.5	95	Date: 7/30 /08
6.25% Sample	248	7.68	8.5	239	Sample ID 20171
12.5% Sample	24.8	7.86	8.5	331	Test Solution Prep
25% Sample	24.8	7.98	8.6	545	New WQ:
50% Sample	24.8	8.13	8.8	968	Innoculation Time 1045
100% Sample	24.8	8.16	9.0	1792	Innoculation Signoff 55/RJ
Meter ID:	6	PH09	D010	ECOI	
Lab Water Control	249	8.00	17010		Date: 7/31/68
6.25% Sample	24.9	7.89			WQ Time: /V2/
12.5% Sample	24.9	7.92			WQ Signoff: 473
25% Sample	24.9	P.67			At Billing and an analysis of all and address of the state of the stat
50% Sample	24.9	8 29			
100% Sample	24.9	8.48			
Meter ID:	41	PHII			
Lab Water Control	24.6	9.18AR_	8.43		Date: 8 - 01, 08
6.25% Sample	24.6	9.10.4	8.94		WQ Time: 1(15
12.5% Sample	24,6	9.08 ATR	9.05		WQ Signoff: AJP
25% Sample	24.6	9.06		1	
50% Sample	24.6	9.01			
100% Sample	24.6	9.04			IN PARTY WATER AND STREET, STR
Meter ID:	1.	PHII			
Lab Water Control	2 Y. 7	9.82			Date: 8/2/05
6.25% Sample	24.7	9.77			WQ Time: 09/5
12.5% Sample	27.7	9.78			WQ Signoff: 474
25% Sample	24.7	9.64	Transcon i		
50% Sample	24.1	9:40			
100% Sample	24.7	9.28			
Meter ID:	41	PH09		†	
Lab Water Control	246	9.85	13.3	107	Date: 9/2/09
6.25% Sample	24.6	989	14.5	213	Termination Time
12.5% Sample	14.6	10.11	165	333	Termination Signoff.
25% Sample	146	10.11	18.0	541	WQ Time: 1245
50% Sample	246	9.59	17.4	939	WQ Signoff:
100% Sample	24.4	9.64	19.2	1651	
Meter ID:	6	PHII	0014	E(O)	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	V 172	√ 354	412

Report Date: Test Code:

12 Sep-08 14:08 (p 1 of 1) 00-0034-1958/29455

Ending Date: 03 Aug-08 17:00   Species:   Selenastrum capricornulum   Brine:   Not Applicable   Age: 7										1631	Joue.			00-003	4-1330/234
Start Date:   30 Jul-08 18:15   Protocol:   EPA/821/R-02-013 (2002)   Dilluent:   Not Applicable   Brine:   Not Applicable   Diluent:   Not	Selenastrum	Growth Test												Pac	ific EcoRis
Sample Date   29 Jul-08 23:38	Test Run No: Start Date: Ending Date: Duration:	30 Jul-08 18:15 03 Aug-08 17:0	Pı 0 Sı	rotocol: pecies:	EPA Sele	V821/R-02- enastrum ca	pricornutum	1		Dilue Brine	ent:	Not .	Applicable	rong	
Analysis No	-	29 Jul-08 23:38 30 Jul-08 13:50	M Se	aterial: ource:	Amb URS	oient Water S									_
100   200	Comparison S	Summary				_			-				-		
Point Estimate Summary  Analysis No Endpoint	Analysis No	Endpoint		NOEL		LOEL	TOEL	PMSD	TU		Meth	od			
Analysis No   Endpoint   Level   Conc-%   95% LCL   95% UCL   TU   Method	07-3963-8413	Cell Density		100	_,	>100	N/A	36.4%	1		Dunn	ett's	Multiple Co	mparison '	Test
17-1973-2032 Cell Density   IC2.5   > 100   N/A   N/A   < 1   Linear Interpolation (ICPIN)   IC5   > 100   N/A   N/A   < 1   Linear Interpolation (ICPIN)   IC5   > 100   N/A   N/A   < 1     Linear Interpolation (ICPIN)   IC5   > 100   N/A   N/A   < 1	Point Estimat	e Summary													
17-1973-2032   Cell Density   IC2.5   > 100	Analysis No	Endpoint		Level		Conc-%	95% LCL	95% UCL	TU		Meth	od			
4 2.53E+6 2.23E+6 2.83E+6 1.68E+6 3.44E+6 1.46E+5 7.99E+5 31.5% -7.889 100 4 3.19E+6 3.11E+6 3.26E+6 2.92E+6 3.36E+6 3.49E+4 1.91E+5 6.01% -35.79  Cell Density Detail  Conc-% Control Type Rep 1 Rep 2 Rep 3 Rep 4 0 Lab Water 2.31E+6 2.25E+6 2.65E+6 2.18E+6 6.25 2.82E+6 2.84E+6 2.49E+6 2.70E+6 12.5 2.24E+6 3.26E+6 1.48E+6 2.74E+6 25 3.55E+6 2.85E+6 2.59E+6 3.35E+6 50 3.44E+6 1.68E+6 2.93E+6 2.08E+6	Conc-% 0 6.25 12.5	Summary Control Type	4 4 4	IC5 IC10 IC15 IC20 IC25 IC40 IC50 Mean 2.35E 2.71E 2.43E	+6 +6 +6	>100 >100 >100 >100 >100 >100 >100 >100	N/A N/A N/A N/A N/A N/A N/A P5% UCL 2.43E+6 2.77E+6 2.71E+6	N/A N/A N/A N/A N/A N/A N/A N/A Min 2.18E+6 2.49E+6 1.48E+6	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	E+6 E+6 E+6	Std E 3.81E 2.93E 1.38E		Std Dev 2.09E+5 1.61E+5 7.58E+5	CV% 8.88% 5.92% 31.2%	0.0% -15.5% -3.51%
100 4 3.19E+6 3.11E+6 3.26E+6 2.92E+6 3.36E+6 3.49E+4 1.91E+5 6.01% -35.79  Cell Density Detail  Conc-% Control Type Rep 1 Rep 2 Rep 3 Rep 4  0 Lab Water 2.31E+6 2.25E+6 2.65E+6 2.18E+6 6.25 2.82E+6 2.84E+6 2.49E+6 2.70E+6 12.5 2.24E+6 3.26E+6 1.48E+6 2.74E+6 25 3.55E+6 2.85E+6 2.59E+6 3.35E+6 50 3.44E+6 1.68E+6 2.93E+6 2.08E+6															-31.4%
Cell Density Detail           Conc-%         Control Type         Rep 1         Rep 2         Rep 3         Rep 4           0         Lab Water         2.31E+6         2.25E+6         2.65E+6         2.18E+6           6.25         2.82E+6         2.84E+6         2.49E+6         2.70E+6           12.5         2.24E+6         3.26E+6         1.48E+6         2.74E+6           25         3.55E+6         2.85E+6         2.59E+6         3.35E+6           50         3.44E+6         1.68E+6         2.93E+6         2.08E+6	100														
Conc-%         Control Type         Rep 1         Rep 2         Rep 3         Rep 4           0         Lab Water         2.31E+6         2.25E+6         2.65E+6         2.18E+6           6.25         2.82E+6         2.84E+6         2.49E+6         2.70E+6           12.5         2.24E+6         3.26E+6         1.48E+6         2.74E+6           25         3.55E+6         2.85E+6         2.59E+6         3.35E+6           50         3.44E+6         1.68E+6         2.93E+6         2.08E+6	Cell Density D	etail							0.00				1.01210	3.0178	-33.1 76
0     Lab Water     2.31E+6     2.25E+6     2.65E+6     2.18E+6       6.25     2.82E+6     2.84E+6     2.49E+6     2.70E+6       12.5     2.24E+6     3.26E+6     1.48E+6     2.74E+6       25     3.55E+6     2.85E+6     2.59E+6     3.35E+6       50     3.44E+6     1.68E+6     2.93E+6     2.08E+6	Conc-%		Rep 1	Rep 2	!	Rep 3	Ren 4								
6.25       2.82E+6       2.84E+6       2.49E+6       2.70E+6         12.5       2.24E+6       3.26E+6       1.48E+6       2.74E+6         25       3.55E+6       2.85E+6       2.59E+6       3.35E+6         50       3.44E+6       1.68E+6       2.93E+6       2.08E+6	0		_ <del>-</del>	<u>_</u> _				-73							
25 3.55E+6 2.85E+6 2.59E+6 3.35E+6 50 3.44E+6 1.68E+6 2.93E+6 2.08E+6	6.25						-								
3.44E+6 1.68E+6 2.93E+6 2.08E+6	12.5		2.24E+6	3.26E	+6	1.48E+6	2.74E+6								
2,7,2,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7	25		3.55E+6	2.85E	+6	2.59E+6	3.35E+6								
100 2.92E+6 3.36E+6 3.18E+6 3.28E+6	50		3.44E+6	1.68E	+6	2.93E+6	2.08E+6								
	100		2.92E+6	3.36E	+6	3.18E+6	3.28E+6								

Report Date:

04 Sep-08 15:57 (p 1 of 1)

Test Code: 00-0034-1958/29455

ı	Analysis No:	07-3963-8413	Endpoint:	Cell Density	CETIS Version:	CETISv1.6.5
-	A I I -	04 Con 09 45:57	A 11	Description Control to Transferents		

Analyze	d: 04 Sep-08 15:57	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes	
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Data Transform Zet	a Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD	
Untransformed	C > T	Not Run	100	>100	N/A	1_	36.4%	

#### Dunnett's Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water		6.25	-1.03	2.41	855000	0.9840	Non-Significant Effect
		12.5	-0.232	2.41	855000	0.8930	Non-Significant Effect
		25	-2.08	2.41	855000	0.9990	Non-Significant Effect
		50	-0.521	2.41	855000	0.9420	Non-Significant Effect
		100	-2.36	2.41	855000	1.0000	Non-Significant Effect

#### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2.429571E+12	4.859142E+11	5	1.93	0.1400	Non-Significant Effect
Error	4.541225E+12	2.522903E+11	18			
Total	6.9707956224E+12	7.382044672E+11	23			

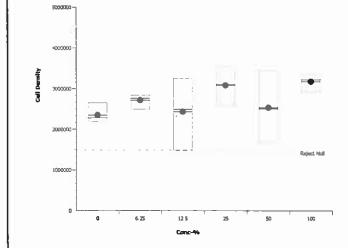
#### ANOVA Assumptions

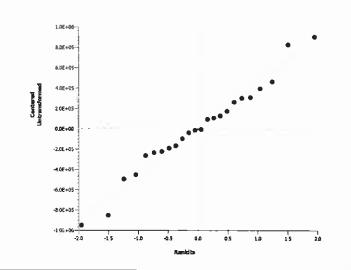
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	11.9	15.1	0.0365	Equal Variances
Distribution	Shapiro-Wilk Normality	0.976		0.8060	Normal Distribution

#### Cell Density Summary

-										
Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
Lab Water	4	2.35E+6	2.27E+6	2.43E+6	2.18E+6	2.65E+6	3.87E+4	2.09E+5	8.88%	0.0%
	4	2.71E+6	2.65E+6	2.77E+6	2.49E+6	2.84E+6	2.98E+4	1.61E+5	5.92%	-15.5%
	4	2.43E+6	2.14E+6	2.72E+6	1.48E+6	3.26E+6	1.41E+5	7.58E+5	31.2%	-3.51%
	4	3.09E+6	2.92E+6	3.25E+6	2.59E+6	3.55E+6	8.21E+4	4.42E+5	14.3%	-31.4%
	4	2.53E+6	2.23E+6	2.84E+6	1.68E+6	3.44E+6	1.48E+5	7.99E+5	31.5%	-7.88%
	4	3.19E+6	3.11E+6	3.26E+6	2.92E+6	3.36E+6	3.55E+4	1.91E+5	6.01%	-35.7%
		Lab Water 4 4 4 4 4	Lab Water 4 2.35E+6 4 2.71E+6 4 2.43E+6 4 3.09E+6 4 2.53E+6	Lab Water 4 2.35E+6 2.27E+6 4 2.71E+6 2.65E+6 4 2.43E+6 2.14E+6 4 3.09E+6 2.92E+6 4 2.53E+6 2.23E+6	Lab Water       4       2.35E+6       2.27E+6       2.43E+6         4       2.71E+6       2.65E+6       2.77E+6         4       2.43E+6       2.14E+6       2.72E+6         4       3.09E+6       2.92E+6       3.25E+6         4       2.53E+6       2.23E+6       2.84E+6	Lab Water       4       2.35E+6       2.27E+6       2.43E+6       2.18E+6         4       2.71E+6       2.65E+6       2.77E+6       2.49E+6         4       2.43E+6       2.14E+6       2.72E+6       1.48E+6         4       3.09E+6       2.92E+6       3.25E+6       2.59E+6         4       2.53E+6       2.23E+6       2.84E+6       1.68E+6	Lab Water       4       2.35E+6       2.27E+6       2.43E+6       2.18E+6       2.65E+6         4       2.71E+6       2.65E+6       2.77E+6       2.49E+6       2.84E+6         4       2.43E+6       2.14E+6       2.72E+6       1.48E+6       3.26E+6         4       3.09E+6       2.92E+6       3.25E+6       2.59E+6       3.55E+6         4       2.53E+6       2.23E+6       2.84E+6       1.68E+6       3.44E+6	Lab Water       4       2.35E+6       2.27E+6       2.43E+6       2.18E+6       2.65E+6       3.87E+4         4       2.71E+6       2.65E+6       2.77E+6       2.49E+6       2.84E+6       2.98E+4         4       2.43E+6       2.14E+6       2.72E+6       1.48E+6       3.26E+6       1.41E+5         4       3.09E+6       2.92E+6       3.25E+6       2.59E+6       3.55E+6       8.21E+4         4       2.53E+6       2.23E+6       2.84E+6       1.68E+6       3.44E+6       1.48E+5	Lab Water       4       2.35E+6       2.27E+6       2.43E+6       2.18E+6       2.65E+6       3.87E+4       2.09E+5         4       2.71E+6       2.65E+6       2.77E+6       2.49E+6       2.84E+6       2.98E+4       1.61E+5         4       2.43E+6       2.14E+6       2.72E+6       1.48E+6       3.26E+6       1.41E+5       7.58E+5         4       3.09E+6       2.92E+6       3.25E+6       2.59E+6       3.55E+6       8.21E+4       4.42E+5         4       2.53E+6       2.23E+6       2.84E+6       1.68E+6       3.44E+6       1.48E+5       7.99E+5	Lab Water       4       2.35E+6       2.27E+6       2.43E+6       2.18E+6       2.65E+6       3.87E+4       2.09E+5       8.88%         4       2.71E+6       2.65E+6       2.77E+6       2.49E+6       2.84E+6       2.98E+4       1.61E+5       5.92%         4       2.43E+6       2.14E+6       2.72E+6       1.48E+6       3.26E+6       1.41E+5       7.58E+5       31.2%         4       3.09E+6       2.92E+6       3.25E+6       2.59E+6       3.55E+6       8.21E+4       4.42E+5       14.3%         4       2.53E+6       2.23E+6       2.84E+6       1.68E+6       3.44E+6       1.48E+5       7.99E+5       31.5%

## Graphics





Report Date: Test Code:

04 Sep-08 15:57 (p 1 of 1) 00-0034-1958/29455

D = -161 -	E Dist

Selenastrum Growth Test Pacific EcoRisk

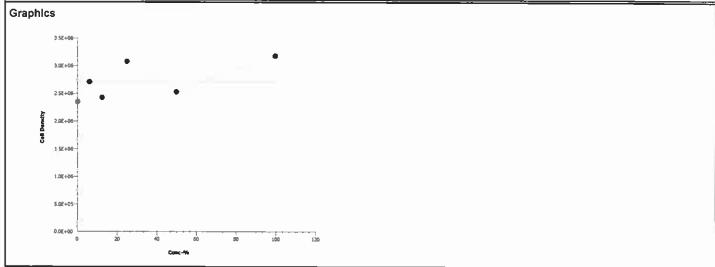
Analysis No: 17-1973-2032 Endpoint: Cell Density **CETIS Version:** CETISv1.6,5 Analyzed: 04 Sep-08 15:57 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

1	•	•	 
Linear Interpolation Options			

X Trans	sform	Y Transform	Seed	Resamples	Exp 95%	CL Method
Linear		Linear	3019480	280	Yes	Two-Point Interpolation
Point E	stimates					
Level	Conc-%	95% LCL	95% UCL	ΤU	95% LCL	95% UCL
IC2.5	>100	N/A	N/A	<1	N/A	N/A
IC5	>100	N/A	N/A	<1	N/A	N/A
IC10	>100	N/A	N/A	<1	N/A	N/A
IC15	>100	N/A	N/A	<1	N/A	N/A
IC20	>100	N/A	N/A	<1	N/A	N/A
IC25	>100	N/A	N/A	<1	N/A	N/A
IC40	>100	N/A	N/A	<1	N/A	N/A
IC50	>100	N/A	N/A	<1	N/A	N/A

Cell Densi	ty Summary		Calculated Variate							
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.35E+6	2.18E+6	2.65E+6	3.81E+4	2.09E+5	8.88%	0.0%	
5.25		4	2.71E+6	2.49E+6	2.84E+6	2.93E+4	1.61E+5	5.92%	-15.5%	
12.5		4	2.43E+6	1.48E+6	3.26E+6	1.38E+5	7.58E+5	31.2%	-3.51%	
5		4	3.09E+6	2.59E+6	3.55E+6	8.07E+4	4.42E+5	14.3%	-31.4%	
0		4	2.53E+6	1.68E+6	3.44E+6	1.46E+5	7.99E+5	31.5%	-7.88%	
100		4	3.19E+6	2.92E+6	3.36E+6	3.49E+4	1.91E+5	6.01%	-35.7%	

Cell Densi	ty Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	2.31E+6	2.25E+6	2.65E+6	2.18E+6
6.25		2.82E+6	2.84E+6	2.49E+6	2.70E+6
12.5		2.24E+6	3.26E+6	1.48E+6	2.74E+6
25		3.55E+6	2.85E+6	2.59E+6	3.35E+6
50		3.44E+6	1.68E+6	2.93E+6	2.08E+6
100		2.92E+6	3.36E+6	3.18E+6	3.28E+6



Client:	URS: DMC	Initial Count: _	10,000 cells/mL
Test Material:	SJRDS-002-TOX	Enumerating Scientist:	814
Test Start Date: 7/30/08	Start Time: 1815	Project #:	13489
Test End Date: 8/2/3%	End Time: 1700	Test ID #:	29455

		C	ell Density (cells/ml	x 10°)	
Treatment	Rep A	<b>Rep</b> B	<b>Rep</b> C	Rep D	Mean
Lab Water Control	2.31	7-25	2-65	2.18	2.35
6.25%	2.82	2.84	2.49	2.70	2.71
12.5%	2.24	3.24	1.48	274	2.43
25%	3.55	2.85	2.59	3.35	3.08
50%	3.44	1-68	2.93	2.08	2.53
100%	2.92	3.36	3.18	3.28	3.18
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10 <sup>6</sup> )	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.35	8.9	8/3/08	1830	26_

### **CETIS Summary Report**

Report Date: Test Code: 30 Sep-08 14:29 (p 1 of 1) 00-0034-1958/29455

									Test 0	Code:			00-0034	-1958/2945
Selenastrum (	Growth Test												Pacif	lic EcoRisi
Test Run No: Start Date: Ending Date: Duration:	05-2582-5926 30 Jul-08 18:15 03 Aug-08 17:00 95h	Prof	ocol: cies:	EPA Sele	Growth V821/R-02-0 enastrum ca louse Cultur	pricornutum			Analy Dilue Brine Age:	nt: 1 : 1	Not A	Jirasritumr pplicable pplicable	ong	
-	20-7608-5873 29 Jul-08 23:38 30 Jul-08 13:50 19h (5 °C)		erial: rce:				Cileni Proje		JRS 13489	)				
Comments:	Hemacytometer	r counts.					•						-	
Comparison S	Summary	-												
Analysis No	Endpoint		NOEL		LOEL	TOEL	PMSD	TU		Metho	d			
07-1468-0049	Cell Density		25		50	35.4	49.5%	4		Dunne	tt's N	fultiple Cor	nparison T	est
Point Estimat	e Summary			<u> </u>							•			
Analysis No	Endpoint		Level		Сопс-%	95% LCL	95% UCL	TU		Metho	d			
13-9261-6270	Cell Density		IC2.5		1.14	0.165	14.7	87.5	,	Linear	Inter	polation (I	CPIN)	
			IC5		2.29	0.33	19.6	43.8	}					
			IC10		4.57	0.661	24.6	21.9	)					
			IC15		6.8	1.02	35.3	14.7	,					
			IC20		8.9	1.47	41.7	11.2	2					
			IC25		11	1.91	48.9	9.1						
			IC40		36.6	N/A	N/A	2.73	}					
			IC50		46.8	21.1	N/A	2.14						
Cell Density S	Summary							-			-		•	ï
Conc-%	Control Type	Count	Mean		95% LCL	95% UCL	Min	Max		Std E	rr	Std Dev	CV%	Diff%
0	Lab Water	4	2.29E	+6	2.18E+6	2.39E+6	1.87E+6	2.55	E+6	5.31E-	+4	2.91E+5	12.7%	0.0%
6.25		4	1.97E	+6	1.78E+6	2.16E+6	1.26E+6	2.35	E+6	9.35E-	+4	5.12E+5	26.0%	13.7%
12.5		4	1.57E	+6	1.20E+6	1.94E+6	9.20E+4	2.21	E+6	1.81E-	+5	9.92E+5	63.2%	31.3%
25		4	1.69E	+6	1.58E+6	1.80E+6	1.36E+6	2.06	E+6	5.27E	+4	2.89E+5	17.1%	25.9%
50		4	1.04E	+6	7.31E+5	1.34E+6	4.00E+4	1.75	E+6	1.50E	+5	8.21E+5	79.2%	54.6%
100		4	1.10E	+6	8.22E+5	1.38E+6	9.90E+4	1.75	E+6	1.37E	+5	7.51E+5	68.2%	51.8%
Cell Density D	Detail													
Conc-%	Control Type	Rep 1	Rep 2	2	Rep 3	Rep 4								
0	Lab Water	2.36E+6	2.36E	+6	2.55E+6	1.87E+6								
6.25		2.35E+6	1.94E	+6	1.26E+6	2.34E+6								
12.5		1.94E+6	2.21E	+6	9.20E+4	2.04E+6								
25		2.06E+6	1.72E	+6	1,36E+6	1.63E+6								
50		1.75E+6	4.00E		1.67E+6	6.90E+5								

1.60E+6 9.60E+5 9.90E+4 1.75E+6

100

Report Date: Test Code: 30 Sep-08 14:29 (p 1 of 1)

00-0034-1958/29455

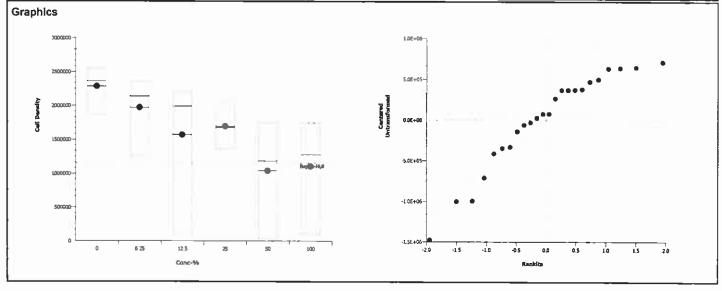
Selenastrum	Grow	th Test					-				Pacific EcoRisk	
Analysis No: Analyzed:	•				Endpoint: Cell Density Analysis: Parametric-Control vs Treatments			12.10 10.00 02.			Sv1.6.5	
Data Transform Zeta			a Alt Hy	/p Monte Carlo		irlo	NOEL	LOEL TOEL		TU	PMSD	
Untransformed	1		C>T	i	Not Run		25	50	35.4	4	49.5%	
Dunnett's Mu	ltiple	Comparison Te	st									
Control	vs	Conc-%	Test S	tat	Critical	MSD	P-Value	Decision	ı(5%)			
Lab Water		6.25	0.665		2.41	1130000	0.5740	Non-Sign	ificant Effec	t		

		p					
Control	vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water		6.25	0.665	2.41	1130000	0.5740	Non-Significant Effect
		12.5	1.52	2.41	1130000	0.2220	Non-Significant Effect
		25	1.26	2.41	1130000	0.3130	Non-Significant Effect
		50*	2.65	2.41	1130000	0.0311	Significant Effect
		100*	2.52	2.41	1130000	0.0407	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	4.723856E+12	9.447712E+11	5	2.14	0.1080	Non-Significant Effect
Error	7.959689E+12	4.422049E+11	18			
Total	1.2683544887E+13	1.3869761823E+12	23			

ANOVA ASSUMPTION	ns				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	6.32	15.1	0.2770	Equal Variances
Distribution	Shapiro-Wilk Normality	0.911		0.0370	Normal Distribution

Cell Densit	cell Density Summary												
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%		
0	Lab Water	4	2.29E+6	2.17E+6	2.40E+6	1.87E+6	2.55E+6	5.40E+4	2.91E+5	12.7%	0.0%		
6.25		4	1.97E+6	1.78E+6	2,17E+6	1.26E+6	2.35E+6	9.51E+4	5.12E+5	26.0%	13.7%		
12.5		4	1.57E+6	1.19E+6	1.95E+6	9.20E+4	2.21E+6	1.84E+5	9.92E+5	63.2%	31.3%		
25		4	1.69E+6	1.58E+6	1.80E+6	1.36E+6	2.06E+6	5.36E+4	2.89E+5	17.1%	25.9%		
50		4	1.04E+6	7.25E+5	1.35E+6	4.00E+4	1.75E+6	1.53E+5	8.21E+5	79.2%	54.6%		
100		4	1.10E+6	8.16E+5	1.39E+6	9.90E+4	1.75E+6	1.40E+5	7.51E+5	68.2%	51.8%		



Selenastrum Growth Test

Report Date: Test Code: 30 Sep-08 14:29 (p 1 of 1)

00-0034-1958/29455

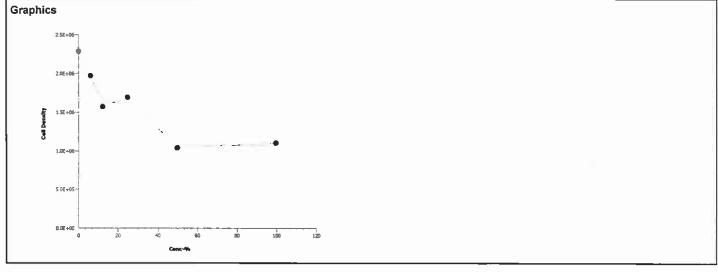
<del> </del>	
Pacific EcoR	lisk
. 40.110 2001	

Analyzed: 30 Sep-08 14:28 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

X Transform		Y Transform	Seed	Resamples	Exp <b>95%</b>	CL	Method	
Linear		Linear	7055475	280	Yes		Two-Point Interpolation	
Point E	stimates							
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95%	UCL	
IC2.5	1.14	0.165	14.7	87.5	6.81	605		
IC5	2.29	0.33	19.6	43.8	5.11	303		
IC10	4.57	0.661	24.6	21.9	4.07	151		
IC15	6.8	1.02	35.3	14.7	2.84	97.9		
IC20	8.9	1.47	41.7	11.2	2.4	68.2		
IC25	11	1.91	48.9	9.1	2.04	52.3		
IC40	36.6	N/A	N/A	2.73	N/A	N/A		
IC50	46.8	21.1	N/A	2.14	N/A	4.75		

Cell Densi	ty Summary				Ca	lculated Va	riate			
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.29E+6	1.87E+6	2.55E+6	5.31E+4	2.91E+5	12.7%	0.0%	
6.25		4	1.97E+6	1.26E+6	2.35E+6	9.35E+4	5.12E+5	26.0%	13.7%	
12.5		4	1.57E+6	9.20E+4	2.21E+6	1.81E+5	9.92E+5	63.2%	31.3%	
25		4	1.69E+6	1.36E+6	2.06E+6	5.27E+4	2.89E+5	17.1%	25.9%	
50		4	1.04E+6	4.00E+4	1.75E+6	1.50E+5	8.21E+5	79.2%	54.6%	
100		4	1.10E+6	9.90E+4	1.75E+6	1.37E+5	7.51E+5	68.2%	51.8%	

Cell Densi	ity Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep <b>4</b>
0	Lab Water	2.36E+6	2.36E+6	2.55E+6	1.87E+6
6.25		2.35E+6	1.94E+6	1.26E+6	2.34E+6
12.5		1.94E+6	2.21E+6	9.20E+4	2.04E+6
25		2.06E+6	1.72E+6	1.36E+6	1.63E+6
50		1.75E+6	4.00E+4	1.67E+6	6.90E+5
100		1.60E+6	9.60E+5	9.90E+4	1.75E+6
100		1.002.10		3.301.14	1.702.10



 Client:
 URS: DMC
 Initial Count:
 10,000 cells/mL

 Test Material:
 SIRDS-002-Tox
 Enumerating Scientist:
 24

 Test Start Date:
 7/30/08
 Start Time:
 1815
 Project #:
 13489

 Test End Date:
 8/3/08
 End Time:
 1700
 Test ID #:
 2,9455

		C	ell Density (cells/ml	x 10 <sup>6</sup> )	-
Treatment	Rep A	<b>Rep</b> B	<b>Rep</b> C	Rep D	Mean
Lab Water Control	2.36	2.34	2.55	1.87	类2.28
6.25%	2.35	1.94	1.26e	2.34	1.97
12.5%	1.94	2.21	0.092	2-04	1.57
25%	2.06	1.72	1-36	1.63	1.69
50%	1.75	०-०५०	1-67	0.69	1.04
100%	1.60	0.96	0.099	1.75	1321.10
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.28	12.7	8-7-08	1700	Ag

\* Homocytometer Counts For all Treatments. 34

## Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29455 Test Date: 7/30/08

Test Material: SJRDS-002-TOX Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	25.3	7.57	7-2	144	Date: 7/30/08
6.25% Sample	25.3	7-73	7-2	235	Sample ID Z0177
12.5% Sample	25.3	7-70	7.3	307	Test Solution Prep:
25% Sample	25.3	7-68	7-6	471	
50% Sample	25.3	7.71	7.4	760	Innoculation Time: 1845
100% Sample	25-3	7-77	7-9	1338	Innoculation Signoff
Meter ID:	5	PHI	2000	ec 04	
Lab Water Control	24.9	7.93			Date: 7/31/05
6.25% Sample	4.9	7.88			WQ Time: 1400
12.5% Sample	24.9	7.88			WQ Signoff: HTA
25% Sample	24.9	8. 03			
50% Sample	24.9	8.06			
100% Sample	24.9	8.34			
Meter ID:	41	1149			
Lab Water Control	25.7	8.85			Date: 8,01,08,
6.25% Sample	25.2	8.78			WQ Time: /236
12.5% Sample	25.2	8.93			WQ Signoff: AJR.
25% Sample	25.z				
50% Sample	25.2	9.01			
100% Sample	25.2	8.93			
Meter ID:	5	PH [[			
Lab Water Control	24.7	9.57			Date: 8/2/08
6.25% Sample	24.7	9.55			WQ Time: 10SS
12.5% Sample	24.7	9.46			WQ Signoff: HTA
25% Sample	24.7	9.47			
50% Sample	24.7	9.30			
100% Sample	24.7	9.25			
Meter ID:	41	Ptbq			
Lab Water Control	25.3	9,84	13.3	15%	Date 5/3/08
6.25% Sample	25.3	996	13.4	245	Termination Time: 1700
12.5% Sample	15.3	9.85	14.1	314	Termination Signoff
25% Sample	15.3	9.87	15.1	473	WQ Time: 1130
50% Sample	25.3	9.64	14.1	748	WQ Signoff
100% Sample	25.3	9-65	17.60	1254	704
Meter ID:	5	PHI	DOH DOM	Ecol	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	V 151	√ <b>2</b> 83	387

Report Date: Link/Link Code: 09 Oct-08 10:35 (p 1 of 1) 12-1922-7406/29782

							Lill	MEIIIK CO	uc.	12-152	2-1400/25/0
Algal Growth	Test									Pac	ific EcoRis
Test Run No: Start Date: Ending Date: Duration:	08-9845-6760 04 Aug-08 17:0 08 Aug-08 16:3 95h	0 Pro 0 <b>Sp</b> e	t Type: tocol: ecies: urce:	Cell Growth EPA/821/R-02 Selenastrum In-House Cult	capricornutur	m	Dile	uent: l	John Jirasritum Not Applicable Not Applicable	nrong	
Receive Date:	20-7608-5873 29 Jul-08 23:38 30 Jul-08 13:50 5d 17h (5 °C)	Sou	de: erial: irce: tion:	SJRDS-002 Ambient Wate URS SJRDS	er				URS 13489		_
Comparison S	Summary										<u></u>
Analysis No	Endpoint			NOEL	LOEL	TOEL	PMSD	Method	d		
04-1520-1651	Cell Density			100	> 100	N/A	24.5%	Steel M	lany-One Rani	Test	
Point Estimat	e Summary										
Analysis No	Endpoint			Effect-%	Conc-%	95% LCL	95% UCL	. Method	d		
19-8777-2890  Cell Density S  Conc-%	·	Count	Mean	2.5 5 10 15 20 25 40 50	> 100 > 100 > 100 > 100 > 100 > 100 > 100 > 100 > 100	N/A N/A N/A N/A N/A N/A N/A Min	N/A N/A N/A N/A N/A N/A N/A N/A	Linear	Interpolation (I	CPIN)	Diff%
0	Lab Water	4	3.36E+	6 3.33E+6	3.39E+6	3.27E+6	3.47E+6	1.53E+	4 8.38E+4	2.5%	0.0%
6.25		4	4.14E+		4.18E+6	4.02E+6	4.26E+6	1.89E+		2.49%	-23.3%
12.5		4	4.11E+		4.15E+6	4.03E+6	4.27E+6	1.98E+	-	2.64%	-22.4%
25		4	4.36E+		4.56E+6	3.68E+6	4.85E+6	9.54E+		12.0%	-29.9%
50 100		4	4.79E+ 4.25E+		4.84E+6 4.64E+6	4.64E+6 2.75E+6	4.93E+6 5.13E+6	2.76E+ 1.90E+		3.16% 24.4%	-42.5% -26.7%
Cell Density D	etail	-	7,2021	0.002.0	7.072,0	2.,02,0	5.19E.0	1.500.7	5 1.07E-10	47.770	-20.778
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	3.33E+6	3.47E+		3.27E+6						
6.25		4.26E+6	4.18E+		4.10E+6						
12.5		4.27E+6	4.07E+		4.07E+6						
25		3.68E+6	4.85E+	6 4.68E+6	4.24E+6						
20											
50		4.93E+6	4.67E+	6 4.90E+6	4.64E+6						

Report Date:

04 Sep-08 18:05 (p 1 of 1)

**Test Code:** 

Non-normal Distribution

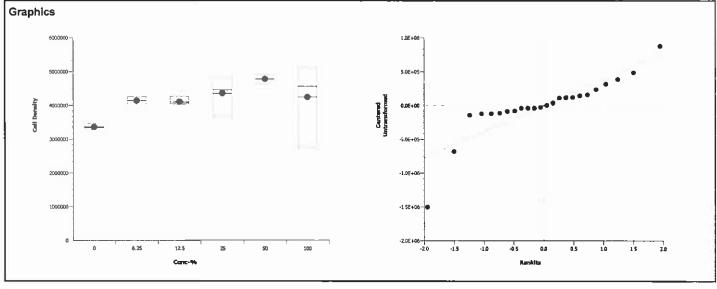
12-1922-7406/29782

Selenastrum (	Grow	th Test									Pacific E	coRisk
Analysis No: Analyzed:		520-1651 Sep-08 18:05	Endpoint: Analysis:		Density parametric-	Control vs	Treatments		S Version: ial Results:	CETIS <sup>1</sup> Yes	v1.6.5	
Data Transfor	m	Zeta	Alt	Нур	Monte Car	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Untransformed	•	_	C > .	٢	Not Run		100	>100	N/A	1	24.5%	
Steel Many-Or	ne Ra	nk Test										
Control	vs	Conc-%	Test	Stat	Critical	Ties	P-Value	Decision(	(5%)			
Lab Water		6.25	26		10	0	1.0000	Non-Signi	ficant Effect			
		12.5	26		10	0	1.0000	Non-Signi	ficant Effect			
		25	26		10	0	1.0000	Non-Signi	ficant Effect			
		50	26		10	0	1.0000	Non-Signi	ficant Effect			
		100	22		10	0	0.9910	Non-Signi	ficant Effect			
ANOVA Table												
Source		Sum Squares	Mea	n Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between		4.346871E+12	8.69	3742E	+11	5	3.72	0.0174	Significant	Effect		
Error		4.210125E+12	2.33	8958E	+11	18						
Total		8.5569956741E+	12 1.10	32700	027E+12	23						
ANOVA Assur	nptio	ns										
Attribute		Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances		Bartlett Equality	of Variance	•	27.2	15.1	0.0001	Unequal \	/ariances			-

Cell Densit	y Summary										
Conc-%	<b>Control Type</b>	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	3.36E+6	3.33E+6	3.39E+6	3.27E+6	3.47E+6	1.56E+4	8.38E+4	2.5%	0.0%
6.25		4	4.14E+6	4.10E+6	4.18E+6	4.02E+6	4.26E+6	1.92E+4	1.03E+5	2.49%	-23.3%
12.5		4	4.11E+6	4.07E+6	4.15E+6	4.03E+6	4.27E+6	2.01E+4	1.08E+5	2.64%	-22.4%
25		4	4.36E+6	4.16E+6	4.56E+6	3.68E+6	4.85E+6	9.70E+4	5.23E+5	12.0%	-29.9%
50		4	4.79E+6	4.73E+6	4.84E+6	4.64E+6	4.93E+6	2.81E+4	1.51E+5	3.16%	-42.5%
100		4	4.25E+6	3.86E+6	4.65E+6	2.75E+6	5.13E+6	1.93E+5	1.04E+6	24.4%	-26.7%

0.0003

0.804



Distribution

Shapiro-Wilk Normality

Selenastrum Growth Test

Report Date: Test Code: 04 Sep-08 18:05 (p 1 of 1)

12-1922-7406/29782

Pacific EcoRisk

Analysis No: 19-8777-2890 Endpoint: Cell Density CETIS Version: CETISv1.6.5

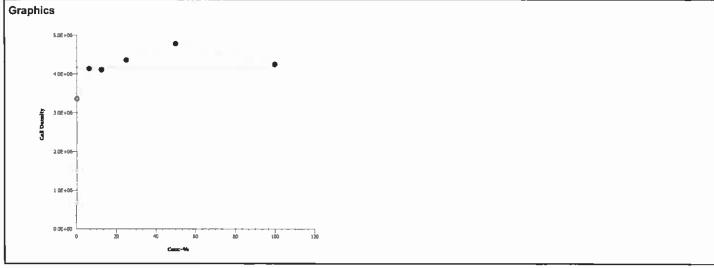
Analyzed: 04 Sep-08 18:05 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Linear Interpol	ation Options				
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	562369	280	Yes	Two-Point Interpolation

Lilleai		-IIICai	302303	200			
Point E	stimates						
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL	
IC2.5	>100	N/A	N/A	<1	N/A	N/A	
1C5	>100	N/A	N/A	<1	N/A	N/A	
IC10	>100	N/A	N/A	<1	N/A	N/A	
IC15	>100	N/A	N/A	<1	N/A	N/A	
IC20	>100	N/A	N/A	<1	N/A	N/A	
IC25	>100	N/A	N/A	<1	N/A	N/A	
IC40	>100	N/A	N/A	<1	N/A	N/A	
IC50	>100	N/A	N/A	<1	N/A	N/A	

Cell Densi	ty Summary				Ca	Iculated Va	riate		
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	3.36E+6	3.27E+6	3.47E+6	1.53E+4	8.38E+4	2.5%	0.0%
6.25		4	4.14E+6	4.02E+6	4.26E+6	1.89E+4	1.03E+5	2.49%	-23.3%
12.5		4	4.11E+6	4.03E+6	4.27E+6	1.98E+4	1.08E+5	2.64%	-22.4%
25		4	4.36E+6	3.68E+6	4.85E+6	9.54E+4	5.23E+5	12.0%	-29.9%
50		4	4.79E+6	4.64E+6	4.93E+6	2.76E+4	1.51E+5	3.16%	-42.5%
100		4	4.25E+6	2.75E+6	5.13E+6	1.90E+5	1.04E+6	24.4%	-26.7%

ty Detail				
Control Type	Rep 1	Rep 2	Rep 3	Rep 4
Lab Water	3.33E+6	3.47E+6	3.36E+6	3.27E+6
	4.26E+6	4.18E+6	4.02E+6	4.10E+6
	4.27E+6	4.07E+6	4.03E+6	4.07E+6
	3.68E+6	4.85E+6	4.68E+6	4.24E+6
	4.93E+6	4.67E+6	4.90E+6	4.64E+6
	2.75E+6	4.49E+6	4.64E+6	5.13E+6
	Control Type	Control Type Rep 1  Lab Water 3.33E+6 4.26E+6 4.27E+6 3.68E+6 4.93E+6	Control Type         Rep 1         Rep 2           Lab Water         3.33E+6         3.47E+6           4.26E+6         4.18E+6           4.27E+6         4.07E+6           3.68E+6         4.85E+6           4.93E+6         4.67E+6	Control Type         Rep 1         Rep 2         Rep 3           Lab Water         3.33E+6         3.47E+6         3.36E+6           4.26E+6         4.18E+6         4.02E+6           4.27E+6         4.07E+6         4.03E+6           3.68E+6         4.85E+6         4.68E+6           4.93E+6         4.67E+6         4.90E+6



Client: URS: DMC Initial Count: 10,000 cells/mL

Test Material: SJRDS-002-TOX Enumerating Scientist: B

Test Start Date: 8/4/08 Start Time: 17/00 Project #: 13489

Test End Date: 8/4/08 End Time: 14000/1630 Test ID #: 21782

			'ell Density (cells/ml	. 10")	
Treatment	Rep A	<b>Rep B</b>	Rep C	Rep D	Mean
Lab Water Control	3.33	3.47	3.34	3.27	n-3.87
6.25%	4.26	4.18	4.02	4.10	4.14
12.5%	4.27	4.07	4.03	4.07	4.11
25%	3.68	4.85	4.68	4.24	4.36
50%	4.93	4.67	4.90	4.64	4.79
100%	2.75	4.49	4.64	<i>5</i> .13	4.25
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	3.30	2.50	8/8/08	1745	AB

## Selenastrum capricornutum Algal Toxicity Test Water Quality Data

 Client:
 URS: DMC
 Test ID #:
 29782
 Test Date:
 8/4/08

 Test Material:
 SJRDS-002-TOX
 Project #:
 13489
 Control/Diluent:
 Algal medium, W/O EDTA

Test Treatment	Temp (^C)	рН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	24.8	2637.52	8.5	157	Date 8/4/18
6.25% Sample	24.8	7.65	8.7	270	Sample ID 2017 &
12.5% Sample	24.8	7.70	8.6	330	Test Solution Prep
25% Sample	24.8	7.79	8.7	498	New WQ LV
50% Sample	રૂપ.૪	7.83	9.1	772	Innoculation Time 1550 1700
100% Sample	24.7	7.87	9.2	1351	Innoculation Signoff 🙌
Meter ID:	41	Ph 03	0012	Ecol	
Lab Water Control	24.8	7.86			Date: 8/5/03
6.25% Sample	24.8	7.91			WQ Time: 12 : 25
12.5% Sample	248	7.88			WQ Signoff AS
25% Sample	24.8	7. 93			
50% Sample	248	8.09			- to fingle symmetry and the suit to consist the final and the first post of the final death communities are a disciplent to community of the final and the
100% Sample	24.8	8 18			12 22 44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Meter ID:	41	pH 09			
Lab Water Control	25.3	8.92			Date: 8/6/08
6.25% Sample	25.3	8.99			WQTime: /2:30
12.5% Sample	25.3	9.03			WQ Signoff: AJR
25% Sample	25.3	8.90			······································
50% Sample	25.3	8.86			+ i Annyahili i Agar ed (11 juru ed ed mondimingsionalpalpanis) an 12 tale edging (an edging) or de immani annos e
100% Sample	25.3	8.68			( z 7 Mass viljelijanit grunn v zuvo a śrosy orazy postypa dojna ki jeleki a je nakalny dojmaka a kunura nazana meje usromi.
Meter ID:	41	PH 03			
Lab Water Control	25,6	9.95			Date: 8/7/08
6.25% Sample	25,6	10.05			Date: 8/7/08 WQ Time: 11:00 aus WQ Signoff: DUP
12.5% Sample	25.6	10.01			WQ Signoff: DWP
25% Sample	25.6	9.99			The second secon
50% Sample	25.6	9.78			- L.Zubersyllättörymann-valli hyllösmininnyyy siy yhyten yyyvä apallosjandanud silvahtidanuminin-vasvala,
100% Sample	25.6	9.39			t fi regilision diade estativing dimensional que de describação adapte program em acroneción goligios especial p Transferior diades estativing dimensional que de describação adapte program em acroneción goligios especial p
Meter ID:	41	PH03			
Lab Water Control	25.4	/0.32	11.7	177	Date 8/1/01
6.25% Sample	75.4	10.57	11.8	307	Termination Time #\$ +\$\$ 163
12.5% Sample	15,4	10:54	11-8	354	Termination Signoff
25% Sample	25,4	10 118	12.1	516	WQ Time /6 /6
50% Sample	25.4	10.30	13.0	775	WQ Signoff.
100% Sample	75.4	10.11	14.8	1276	
Meter ID:	41	109	70014	Ecos	

Initial Test Conditions	/ Alkalinity	/ Hardness	Light Intensity (ftc)
	144	V 292	394

#### **CETIS Summary Report**

Report Date: Test Code: 04 Sep-08 16:09 (p 1 of 1) 09-9048-2481/29456

										00 00 10	2 10 1120 10
Selenastrum (	Growth Test									Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	17-7416-1937 31 Jul-08 11:15 04 Aug-08 12:00 4d 1h	Pro Spe	t Type: tocol: cies: irce:		02-013 (2002) capricornuturi Iture	1	Di Bı	iluent: rine:	John Jirasritun Not Applicable Not Applicable 7	·	-
-	20-7133-6523 30 Jul-08 03:15 30 Jul-08 13:50 32h (5 °C)	Sou	le: erial: irce: tion:	SJRDS-003 Ambient War URS SJRDS	ter				URS 13489		
Comparison S	Summary										
Analysis No 00-7246-3976	Endpoint Cell Density		NOEL 100	. LOEL >100	TOEL N/A	PMSD 18.6%	TU 1	Metho	od ett's Multiple C	omparison 1	Test Test
Point Estimate	e Summary										
Analysis No	Endpoint		Level	Conc-%	6 95% LCL	95% UCL	TU	Metho	od		
Cell Density S	Summary	Count	IC2.5 IC5 IC10 IC15 IC20 IC25 IC40 IC50	>100 >100 >100 >100 >100 >100 >100 >100	N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1		r Interpolation (		
0	Control Type  Lab Water	Count 4	Mean 1.80E				Max	Std E			Diff%
6.25	ran Anglei	4	1.80E 2.44E			1.39E+6 2.23E+6	2.10E+ 2.60E+				0.0% -35.8%
12.5		4	2.90E			2.60E+6	3.05E+				-35.8% -61.4%
25		4	3.60E			3.47E+6	3.81E+				-100.0%
50		4	4.06E			3.82E+6	4.21E+				-126.0%
100		4	4.73E	+6 4.68E+6	6 4.77E+6	4.62E+6	4.87E+	6 2.21E	+4 1.21E+5	2.57%	-163.0%
Cell Density D	)etail										
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	2.10E+6	1.39E	+6 1.86E+6	1.83E+6						
U											
6.25		2.23E+6	2.60E	+6 2.33E+6	6 2.59E+6						
-		2.23E+6 3.02E+6	2.60E 2.60E								
6.25				+6 3.05E+6	5 2.92E+6						
6.25 12.5		3.02E+6	2.60E	+6 3.05E+6 +6 3.51E+6	2.92E+6 3.47E+6						

Report Date: Test Code: 04 Sep-08 16:09 (p 1 of 1) 09-9048-2481/29456

Selenastrum Growth Test

Analysis No: 00-7246-3976 Endpoint: Cell Density

Analyzed: 04 Sep-08 16:09 Analysis: Parametric-Control vs Treatments

Official Results: Yes

Data Transform

Zeta Alt Hyp Monte Carlo NOEL 1051 TOEL THE DMOD

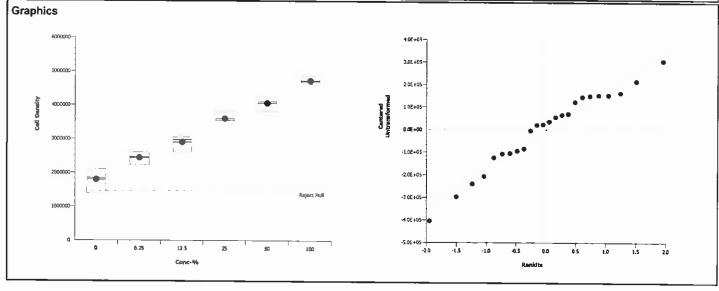
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	ΤŲ	PMSD
Untransformed		C > T	Not Run	100	>100	N/A	1	18.6%

Dunnett's Mu	ltiple	Comparison Test					
Control	vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water		6.25	-4.63	2.41	334000	1.0000	Non-Significant Effect
1		12.5	-7.95	2.41	334000	1.0000	Non-Significant Effect
		25	-13	2.41	334000	1.0000	Non-Significant Effect
		50	-16.3	2.41	334000	1.0000	Non-Significant Effect
		100	<b>-21</b> .1	2.41	334000	1.0000	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2.340868E+13	4.681737E+12	5	122	0.0000	Significant Effect
Error	6.9265E+11	38480560000	18			•
Total	2.4101333238E+13	4.7202172068E+12	23			

ANOVA Assump	otions		<del></del>	<del></del>	
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	2.55	15.1	0.7690	Equal Variances
Distribution	Shapiro-Wilk Normality	0.963		0.4990	Normal Distribution

Cell Densit	y Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.80E+6	1.68E+6	1.91E+6	1.39E+6	2.10E+6	5.49E+4	2.96E+5	16.5%	0.0%
6.25		4	2.44E+6	2.37E+6	2.51E+6	2.23E+6	2.60E+6	3.46E+4	1.86E+5	7.65%	-35.8%
12.5		4	2.90E+6	2.82E+6	2.98E+6	2.60E+6	3.05E+6	3.82E+4	2.06E+5	7.11%	-61.4%
25		4	3.60E+6	3.54E+6	3.65E+6	3.47E+6	3.81E+6	2.82E+4	1.52E+5	4.22%	-100.0%
50		4	4.06E+6	4.00E+6	4.12E+6	3.82E+6	4.21E+6	3.13E+4	1.69E+5	4.16%	-126.0%
100		4	4.73E+6	4.68E+6	4.77E+6	4.62E+6	4.87E+6	2.25E+4	1.21E+5	2.57%	-163.0%



Analysis No: 13-1488-8242

N/A

N/A

N/A

IC25

IC40

IC50

>100

>100

>100

N/A

N/A

N/A

Report Date: **Test Code:** 

04 Sep-08 16:09 (p 1 of 1)

09-9048-2481/29456

Selenastrum Growth Test	Pacific EcoRis	k
_·		

Endpoint: Cell Density **CETIS Version: CETISv1.6.5** Analyzed: 04 Sep-08 16:09 Analysis: Linear Interpolation (ICPIN)

Official Results: Yes

<1

<1

<1

Linear	Interpolat	ion Options				
X Trans	sform	Y Transform	Seed	Resamples	Exp 95%	6 CL Method
Linear		Linear	140176	280	Yes	Two-Point Interpolation
Point E	stimates			<u> </u>		
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC2.5	>100	N/A	N/A	<1	N/A	N/A
IC5	>100	N/A	N/A	<1	N/A	N/A
IC10	>100	N/A	N/A	<1	N/A	N/A
IC15	>100	N/A	N/A	<1	N/A	N/A
IC20	>100	N/A	N/A	<1	N/A	N/A

N/A

N/A

N/A

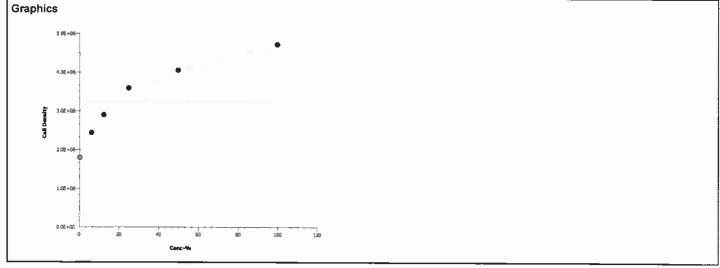
N/A

N/A

N/A

Cell Densi	Cell Density Summary Calculated Variate								
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.80E+6	1.39E+6	2.10E+6	5.40E+4	2.96E+5	16.5%	0.0%
6.25		4	2.44E+6	2.23E+6	2.60E+6	3.40E+4	1.86E+5	7.65%	-35.8%
12.5		4	2.90E+6	2.60E+6	3.05E+6	3.76E+4	2.06E+5	7.11%	-61.4%
25		4	3.60E+6	3.47E+6	3.81E+6	2.77E+4	1.52E+5	4.22%	-100.0%
50		4	4.06E+6	3.82E+6	4.21E+6	3.08E+4	1.69E+5	4.16%	-126.0%
100		4	4.73E+6	4.62E+6	4.87E+6	2.21E+4	1.21E+5	2.57%	-163.0%

Control Type  Lab Water	Rep 1 2.10E+6	Rep 2	Rep 3	Rep 4
Lab Water	2.405.6			reh 4
	2. IUE+0	1.39E+6	1.86E+6	1.83E+6
	2.23E+6	2.60E+6	2.33E+6	2.59E+6
	3.02E+6	2.60E+6	3.05E+6	2.92E+6
	3.81E+6	3.59E+6	3.51E+6	3.47E+6
	3.82E+6	4.08E+6	4.13E+6	4.21E+6
	4.87E+6	4.78E+6	4.62E+6	4.63E+6
		3.02E+6 3.81E+6 3.82E+6	3.02E+6 2.60E+6 3.81E+6 3.59E+6 3.82E+6 4.08E+6	3.02E+6 2.60E+6 3.05E+6 3.81E+6 3.59E+6 3.51E+6 3.82E+6 4.08E+6 4.13E+6



 Client:
 URS: DMC
 Initial Count:
 10,000 cells/mL

 Test Material:
 SJRDS-003-TOX
 Enumerating Scientist:
 50

 Test Start Date:
 7/31/08
 Start Time:
 (1/15)
 Project #:
 13489

 Test End Date:
 9/4/19
 End Time:
 13/23/1700
 Test ID #:
 29456

		C	ell Density (cells/ml)	( 10°)	
Treatment	Rep A	Rep B	Rep C	Rep D	Mean
Lab Water Control	2.10	1.39	1.86	1.83	1.79
6.25%	2.23	2.60	2.33	2.59	2.44
12.5%	3.02	2.60	3.05	2.92	2.90
25%	3.81	3.59	3.51	3.47	3.59
50%	3.82	4.08	4.13	4.21	4.0le
100%	4.87	4.78	4.62	4.63	4.72
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10°)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	1.79	16.5	8-5-08	1700	MB

## Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29456 Test Date: 7/3//08

Test Material: SJRDS-003-TOX Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	рН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	25.5	7.45	8.0	144.7	Date: 7/3//08
6.25% Sample	25.5	7.98	8.2	1.57.3	Sample ID: 20178
12.5% Sample	25.5	7.83	8.1	150.5	Test Solution Prep 18-0 KO
25% Sample	25.5	7.83	8.1	365	New WQ: 🐴
50% Sample	25.5	7.91	84	589	Innoculation Time: [1 - 15
100% Sample	25.5	7,97	8.7	1015	Innoculation Signoff Ko
Meter ID:	194	phil	Do 12	8004	
Lab Water Control	24.9	8.02			Date: 8.01. 68
6.25% Sample	24.9	8.05			WQ Time: 1215
12.5% Sample	24.9	8.09			WQ Signoff: AJR
25% Sample	24.9	8.24			
′50% Sample	24.9	8.41			
100% Sample	24.9	8.52			
Meter ID:	15A	PHII			
Lab Water Control	24.7	8.61			Date: 8/2/08
6.25% Sample	24.7	8.80			WQTime: 1105
12.5% Sample	24.7	8.86			WQ Signoff: HTA
25% Sample	24.7	9.03			
50% Sample	24,7	8.91			
100% Sample	24,٦	8.79		(SV 115-32)	
Meter ID:	41	PH69			
Lab Water Control	250	9.42			Date: 8/3/08
6.25% Sample	25.0	9.66			WQ Time: D930
12.5% Sample	25.0	9.85			WQ Signoff:
25% Sample	15.0	992			
50% Sample	25.0	9.69			
100% Sample	25.0	9.50			
Meter ID:	154	PHI			
Lab Water Control	24.7	9.96	10.6	150	Date 8/4/cf
6.25% Sample	24.7	10.01	11.0	208	Termination Time: 1200
12.5% Sample	24.7	10.32	12.0	275	Termination Signoff; 5v9
25% Sample	24.7	10.40	12-8	396	WQ Time: 0955
50% Sample	7.1	10.29	13.6	Gas	WQ Signoff: HVI
100% Sample	24.7	16.40	13.9	1026	
Meter ID:	14	PHO9	POIO	Ecos	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	/ 112	/ 448	415

Report Date: Test Code: 04 Sep-08 16:21 (p 1 of 1) 02-6946-6336/29457

								est Code:			02-03-0	0-0330/2945
Selenastrum	Growth Test										Paci	fic EcoRisi
Test Run No: Start Date: Ending Date: Duration:	11-1076-0023 01 Aug-08 14:05 05 Aug-08 14:45 4d 1h	Prot	ocol: cies:	Cell Growth EPA/821/R-02- Selenastrum ca In-House Cultu	pricornutum	1	E	Analyst: Diluent: Brine: Age:	Not A	Jirasritumi Applicable Applicable	rong	
Receive Date:	18-1077-8026 31 Jul-08 09:10 31 Jul-08 12:04 29h (15.6 °C)	Cod Mate Sou Stati	erial: rce:	SJRDS-004 Ambient Water URS SJRDS				Client: Project:	URS 1348			
Comparison S	Summary											
Analysis No 00-7669-6941	Endpoint Cell Density		NOEL 100	LOEL >100	TOEL N/A	PMSD 12.3%	TU 1	Meth Dun		Multiple Co	mparison T	 Test
Point Estimat	e Summary											
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	hor			
Cell Density S Conc-% 0 6.25 12.5 25	Cell Density  Summary  Control Type  Lab Water	Count 4 4 4 4 4 4 4	IC2.5 IC5 IC10 IC15 IC20 IC25 IC40 IC50 Mean 2.52E 3.07E 3.29E 3.20E	+6 3.02E+6 +6 3.25E+6	N/A N/A N/A N/A N/A N/A N/A N/A 95% UCL 2.59E+6 3.11E+6 3.32E+6 3.30E+6	N/A N/A N/A N/A N/A N/A N/A N/A Min 2.28E+6 2.92E+6 3.16E+6 2.94E+6	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Std   +6 3.31  +6 2.28  +6 1.91	Err E+4 E+4	Std Dev 1.82E+5 1.25E+5 1.05E+5 2.65E+5	CV% 7.2% 4.08% 3.19% 8.28%	Diff% 0.0% -21.5% -30.2% -26.9%
50		4	3.17E	+6 3.12E+6	3.22E+6	3.01E+6	3.33E			1.37E+5	4.32%	-25.7%
100		4	3.25E	+6 3.16E+6	3.33E+6	2.91E+6	3.39E	+6 4.11	E+4	2.25E+5	6.94%	-28.6%
Cell Density D	Petail											
Conc-%  0  6.25  12.5  25  50  100	Control Type Lab Water	Rep 1 2.28E+6 3.09E+6 3.35E+6 3.15E+6 3.33E+6 3.39E+6	Rep 2 2.72E- 3.22E- 3.39E- 3.14E- 3.01E- 2.91E-	+6 2.54E+6 +6 3.03E+6 +6 3.24E+6 +6 3.57E+6 +6 3.22E+6	Rep 4 2.55E+6 2.92E+6 3.16E+6 2.94E+6 3.12E+6 3.36E+6							

Report Date: Test Code: 04 Sep-08 16:21 (p 1 of 1)

02-6946-6336/29457

Selenastrum (	Growth Test			<u> </u>		Pacific EcoRisk
Analysis No:	00-7669-6941	Endpoint:	Cell Density	CETIS Version:	CETISv1.6.5	
Analyzed:	04 Sep-08 16:21	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes	

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD	
Untransformed		C > T	Not Run	100	>100	N/A	1	12.3%	

#### **Dunnett's Multiple Comparison Test**

Control	VS	Conc-%	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water		6.25	-4.21	2.41	310000	1.0000	Non-Significant Effect
		12.5	-5.92	2.41	310000	1.0000	Non-Significant Effect
		25	-5.26	2.41	310000	1.0000	Non-Significant Effect
		50	-5.03	2.41	310000	1.0000	Non-Significant Effect
		100	-5.61	2.41	310000	1.0000	Non-Significant Effect

#### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	1.611087E+12	3.222175E+11	5	9.71	0.0001	Significant Effect
Error	5.97575E+11	33198610000	18			
Total	2.2086624870E+12	3.554161193E+11	23			

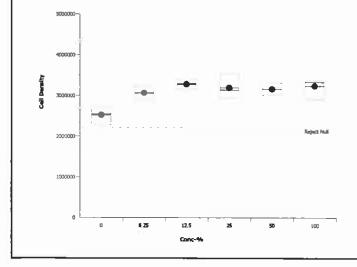
#### **ANOVA Assumptions**

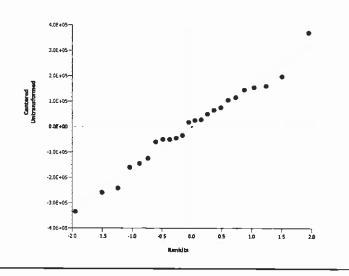
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	3.37	15.1	0.6440	Equal Variances
Distribution	Shapiro-Wilk Normality	0.983		0.9470	Normal Distribution

## Cell Density Summary

Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.52E+6	2.45E+6	2.59E+6	2.28E+6	2.72E+6	3.37E+4	1.82E+5	7.2%	0.0%
6.25		4	3.07E+6	3.02E+6	3.11E+6	2.92E+6	3.22E+6	2.32E+4	1.25E+5	4.08%	-21.5%
12.5		4	3.29E+6	3.25E+6	3.32E+6	3.16E+6	3.39E+6	1.94E+4	1.05E+5	3.19%	-30.2%
25		4	3.20E+6	3.10E+6	3.30E+6	2.94E+6	3.57E+6	4.92E+4	2.65E+5	8.28%	-26.9%
50		4	3.17E+6	3.12E+6	3.22E+6	3.01E+6	3.33E+6	2.54E+4	1.37E+5	4.32%	-25.7%
100		4	3.25E+6	3.16E+6	3.33E+6	2.91E+6	3.39E+6	4.18E+4	2.25E+5	6.94%	-28.6%

### Graphics





Report Date:

04 Sep-08 16:21 (p 1 of 1) 02-6946-6336/29457

**Test Code:** 

Selenastrum Growth Test Pacific EcoRisk

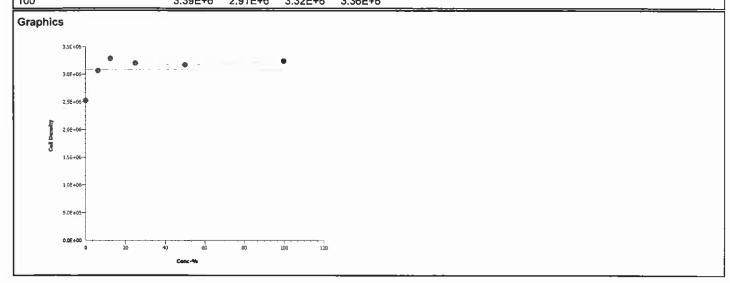
Analysis No: 02-7796-7849 Endpoint: Cell Density **CETIS Version:** CETISv1.6.5

Analyzed: 04 Sep-08 16:21 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

Linear	Interpolati	ion Options						
X Trans	sform	Y Transform	Seed	Resamples	Exp 95%	CL	Method	
Linear		Linear	8144900	280	Yes		Two-Point Interpolation	
Point E	stimates							
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95%	UCL	
IC2.5	>100	N/A	N/A	<1	N/A	N/A	·	
IC5	>100	N/A	N/A	<1	N/A	N/A		
IC10	>100	N/A	N/A	<1	N/A	N/A		
IC15	>100	N/A	N/A	<1	N/A	N/A		
IC20	>100	N/A	N/A	<1	N/A	N/A		
IC25	>100	N/A	N/A	<1	N/A	N/A		
IC40	>100	N/A	N/A	<1	N/A	N/A		
IC50	>100	N/A	N/A	<1	N/A	N/A		

Cell Density Summary			Calculated Variate							
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.52E+6	2.28E+6	2.72E+6	3.31E+4	1.82E+5	7.2%	0.0%	
6.25		4	3.07E+6	2.92E+6	3.22E+6	2.28E+4	1.25E+5	4.08%	-21.5%	
12.5		4	3.29E+6	3.16E+6	3.39E+6	1.91E+4	1.05E+5	3.19%	-30.2%	
25		4	3.20E+6	2.94E+6	3.57E+6	4.84E+4	2.65E+5	8.28%	-26.9%	
50		4	3.17E+6	3.01E+6	3.33E+6	2.50E+4	1.37E+5	4.32%	-25.7%	
100		4	3.25E+6	2.91E+6	3.39E+6	4.11E+4	2.25E+5	6.94%	-28.6%	

Cell Densi	Cell Density Detail							
Сопс-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4			
0	Lab Water	2.28E+6	2.72E+6	2.54E+6	2.55E+6			
6.25		3.09E+6	3.22E+6	3.03E+6	2.92E+6			
12.5		3.35E+6	3.39E+6	3.24E+6	3.16E+6			
25		3.15E+6	3.14E+6	3.57E+6	2.94E+6			
50		3.33E+6	3.01E+6	3.22E+6	3.12E+6			
100		3 30516	2.01546	3 22516	2.265+6			



Client: _		URS: DMC		Initial Count: _	10,000 cells/mL	
Test Material:		SJRDS-004-TOX		_ Enumerating Scientist: _	812	
Test Start Date:_	8/1/08	Start Time:	1405	Project #:	13489	
Test End Date: _	8/5/08	End Time:	1445	Test ID #:	29457	

T	Cell Density (cells/ml x 10°)							
Treatment	Rep A	Rep B	Rep C	Rep D	Mean			
Lab Water Control	2.28	2.72	2.54	2.55	2.52			
6.25%	3.09	3.22	3.03	2.92	3.0C			
12.5%	3.35	3.39	3.24	3.16	3.28			
25%	3.15	3.14	3.57	2.94	3.2			
50%	3.33	3.01	3.22	3.12	3.17			
100%	3.37	2.91	3.32	3.36	3.24			
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10 <sup>6</sup> )	% CV	Date:	Time:	Signoff:			
Acceptability Criteria and/or other issues of concern.	2.52	7.2	8-5-08	1600	X			

## Selenastrum capricornutum Algal Toxicity Test Water Quality Data

 Client:
 URS: DMC
 Test ID #: 29457
 Test Date:
 8/o1 / 08

 Test Material:
 SJRDS-004-TOX
 Project #: 13489
 Control/Diluent:
 Algal medium, W/O EDTA

					R351
Test Treatment	Temp (°C)	рН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	24.7	7.55	8.1	159	Date 8/01/08
6.25% Sample	24.7	7.61	8.1	236	Sample ID 20195
12.5% Sample	24.7	7-68	8.0	279	Test Solution Prep: KO
25% Sample	24.7	7.73	8.1	398	New WO. AJR.
50% Sample	24.7	7.89	8.1	619	Innoculation Time 1405
100% Sample	24-7	7-98	8.1	1057	Innoculation Signoff Ko
Meter ID:	12	PHOT	Do14.	ECOL	
Lab Water Control	24.7	7.98			Date: 8/2/08
6.25% Sample	24.7	7.89			WQ Time: 44 HA 1640
12.5% Sample	24.7	7.94			WQ Signoff: HTA
25% Sample	34.7	8.03			
50% Sample	24.7	8.04			
100% Sample	24.7	8.21			
Meter ID:	41	12409			
Lab Water Control	250	867			Date: 6/3/08
6.25% Sample	25.0	9 37			WQ Time: 1025
12.5% Sample	25.6	4. MALABO	Ó		WQ Signoff:
25% Sample	25.0	8.54			, , , , , , , , , , , , , , , , , , ,
50% Sample	25.6	8.48			
100% Sample	25.0	8.56			
Meter ID:	12	PHI(			
Lab Water Control	-24.7	9.71			Date: 8/4/68
6.25% Sample	24.7	9.14			0930
12.5% Sample	24.7	9.64			WQ Signoff: HTA
25% Sample	247	9.58			
50% Sample	24.7	9.30			
100% Sample	24.7	9.22			
Meter ID:	41	PHO9			
Lab Water Control	248	10.10	13.7	184	Date 8/5/08
6.25% Sample	24.8	9.90	12.9	233	Termination Time 1445
12.5% Sample	24.8	10.25	13.5	296	4 erinteation Signott
25% Sample	24.8	10.26	14.6	409	₩Q Time: 12 45
50% Sample	24.8	10.07	14.4	610	WQ Signoff As
100% Sample	243	10.00	17.0	993	
Meter ID:	12	P0H0	DO 12	Ec04	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	107 /	124	401

# **Appendix C**

Test Data and Summary of Statistics for the Evaluation of the Acute Toxicity of the San Joaquin River Recirculation Study Ambient Waters to *Ceriodaphnia dubia* 

Report Date:

04 Sep-08 17:03 (p 1 of 1)

Test Code:

19-6761-5329/29459

								Test Code	<u>:</u>	19-6	761-5329/2945
Acute Ceriod	aphnia Survival	Test								P	acific EcoRisI
Test Run No: Start Date: Ending Date: Duration:	10-4457-8305 30 Jul-08 15:48 03 Aug-08 14:4 95h	-	Test Type: Protocol: Species: Source:	Survival (48h) EPA/821/R-02- Ceriodaphnia o In-House Cultu	lubia			Analyst: Diluent: Brine: Age:	John Jirasritum Spring Water Not Applicable 1	nrong	
	09-1745-9873 29 Jul-08 06:40 01 Jul-08 11:50 33h (12 °C)		Code: Material: Source: Station:	NWDS-001 Ambient Water URS NWDS				Client: Project:	URS 13489		
Comparison S	Summary								<del></del>	<del></del> _	
Analysis No	Endpoint		NOEL		TOEL	PMSD	TU	Meti	nod		
03-1050-5907 	48h Survival Ra	ate	100	>100	N/A	5.0%	1	Stee	l Many-One Ran	k Test	
48h Survival F	Rate Summary							<del></del>			<del></del>
Conc-%	Control Type	Cour	nt Mean	95% LCL	95% UCL	Min	Max	Std	Err Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
48h Survival F	Rate Detail		_				-				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Report Date: 04 Sep-08 17:03 (p 1 of 2)

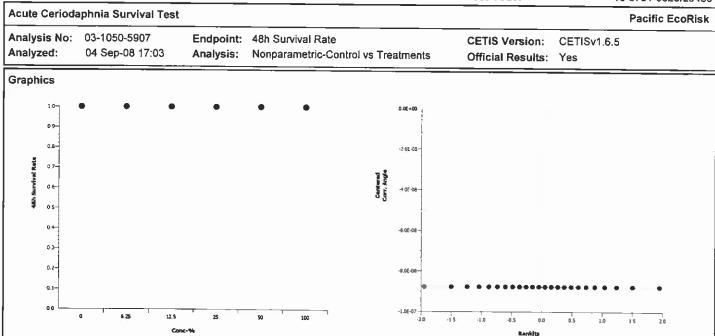
Test Code: 19-6761-5329/29459

							1031	Code.		19-0101	1-0323/2340
Acute Ceriod	laphnia Survival	Test				_		-		Paci	ific EcoRisi
Analysis No:	03-1050-5907	Fr	dpoint: 48h	Survival Ra	ate		CET	IS Version:	CETISv1	6.5	_
Analyzed:	04 Sep-08 17:		•	parametric-		reatments.		ial Results		.0.5	
								iai Results	. 163		
Data Transfo		Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corr	ected) —————	_	C>T	Not Run		100	>100	N/A	1	5.0%	
Steel Many-C	ne Rank Test		-								
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	(5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	_	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	9				<del></del> -						
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0		0		5	65500	0.0000	Significan			
Error	0		0		18			3			
Total	0		0		23						
ANOVA Assu	mptions										<del></del>
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equali	ty of Variance	65500	4.25	0.0000	Unequal \	<u> </u>			<u> </u>
48h Survival	Rate Summary			<del>_</del>	<del>-</del>			<u> </u>			
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0		
25		4	1	1	1	1	-	_	-	0.0%	0.0%
50		•		•	,	•	1	0	0	0.0%	0.0%
		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1 	1	1	1 	1	0	0	0.0%	0.0%
Angular (Cor	rected) Transfor	med Sum	mary					_			
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
50		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
100		4	1.35	1.35	1.35	1.35	1.35				
100		4	1.00	1.55	1.33	1.35	1.33	0	0	0.0%	0.0%

Report Date: Test Code:

04 Sep-08 17:03 (p 2 of 2)

19-6761-5329/29459



## 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DMC		Test Date: _	113014	
Test Material:		WDS-001-TC	X	Control/Diluent:	Conditioned 80:20	
Test ID#:	29459	Project #	13489	Control Water Batch:	Tank#1	
Randomization:	4.6.3			_		

Feeding T0 Time: 800 Initials: 9/C Feeding T46-hr Time: 0845 Initials JPC

T	Temp	р	Н	D.	.O.	Conductivity		# Live .	Animal	s	C: Oct
Treatment	(°C)	New	Old	New	Old	(μS/cm)	A	В	С	D	- Sign-Off
Control	20.3	8.35		8.3		286.7	5	5	5	5	Date: 7136168
6.25%	20.3	8-3		8.4		356	5	5	5	5	Sample ID:
12.5%	20.3	8.25		8.4	8. <u> </u>	418	5	5	5	5	Test Solution Prep:
25%	26.3	8.13		₽. ₽		578	5	5	5	5	New WQ:
50%	20.3	8. 98		8.8		861	5	5	5	5	Initiation Time:
100%	20.3	7.96		9.4		1431	5	5	5	5	Initiation Signoff:
Meter ID	47	Phos		Doit		Ecas					
Control	19.8		8.27		27243	172.4	5	5	3	3	Date: 78/08
6.25%	19.8		8.41		-3540 8.2	350	5	5	5	5	Count Time: 945
12,5%	19.4		8.42		<b>8</b> .0	486	5	5	3	5	Count Signoff
25%	19.4		8-51	- 7	8.1	513	5	5	3	S	Old WQ:
50%	19.8		8-60		8.1	852	5	5	5	5	
100%	14.8		8.67		8-0	1446	ى	5	5	5	
Meter ID	417		PL 03		2010	Ecos					en harrion and description and an artistic or a section of
Control	20.1	8.31	8.19	8.7	8.4	251	5	5	5	5	Date: 8/1/08
6.25%	20.1	8.31	8.28	8.7	8.3	358	5	5	5	5	Sample ID: Zd 76
12.5%	20.1	W 22	8.35.48	37	8.4	1127438	5	5	5	5	Test Solution Prep:
25%	20.1	8,29	8.40	8.7	8,3	586	5	5	5	5	New WQ: XR
50%	20.1	8.24	8.52	8.8	8.3	869	5	5	5	5	Count Time: 1345
100%	20.1	8.20	8 12	9.0	g. 2	1414	5	5	5	5	Count Signoff:
Meter ID	47	etoq	poh 03	DOID	D014	ECOS					Old WQ:
Control	19.7		4.70		4.2	349	5	5	5	5	Date: 8/2/54
6.25%	197		1,36		4.6	362	5	5	5	5	Count Time: 9/5
12.5%	19.7		8.43		4.4	442	5	5	5	5	Count Signoff:
25%	197		4.41		9.5	545	5	5	5	5	Old WQ: 102-
50%	19.7		8.57		8.2	866	5	5	5	5	
100%	19.7	_ \ A A	8.68		8.6	1351	5	5	5	5	a de la companya de para para de proposito de proposito de la companya de proposito de provincio de presente d
Meter ID	<i>5</i> 5		OHO		ARVI	ELUA			وابت		
Control	26.4	اطلعال	\$42		87	261	5	5	5	5	Date: 8/3/08
6.25%	20.4		4.62		9.3	379	5	5	5	5	Termination Time:
12.5%	20.4		8.53		8.8	453	5	5	5	5	Termination Signott: RV
25%	204		8,63	4 10	9.0	575	5	5	5	5	Old WO: SL
50%	20.4		8.67		8.9	915	5	5	5	5	
100%	20-4		8,73		8.6	1635	5	5	5	5	<del>James Printer By Mark and wat No. 1998-19 de Leage de</del> s marieles
Meter ID	47		рноз			£(04		-		1 3 3 4	

Report Date: Test Code: 04 Sep-08 16:48 (p 1 of 1)

03-9288-2129/29460

							Tes	t Code:		03-9288	-2129/2946
Acute Cerioda	phnia Survival T	est				_	-			Paci	fic EcoRisi
Test Run No:	03-6394-9623	7	est Type:	Survival (48h)			Апа	lyst:	John Jirasritun	nrona	
Start Date:	30 Jul-08 16:15		rotocol:	EPA/821/R-0				ient:	Spring Water		
Ending Date:			pecies:	Ceriodaphnia	, ,		Brin		Not Applicable		
Duration:	95h		ource:	In-House Cult			Age		1		
-			-								
Sample No:	07-7753-2107		ode:	NWDS-002			Clie		URS		
	29 Jul-08 21:52	N	/laterial:	Ambient Water	er		Pro	ject:	13489		
Receive Date:	30 Jul-08 13:50	S	ource:	URS							
Sample Age:	18h (5 °C)	S	station:	NWDS							
Comparison S	Summary							-			
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	od		
17-5202-5189	48h Survival Rat	e	100	>100	N/A	21.7%	1	Steel	Many-One Rar	nk Test	
Point Estimate	e Summary										<del></del>
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	ΤU	Meth	od		
00-9398-5095	48h Survival Rat	:e	EC2.5	3.55	N/A	N/A	28.2	Linea	r Regression (N	VLE)	
			EC10	68.6	N/A	N/A	1.46				
			EC15		N/A	N/A	0.5				
			EC20	469	N/A	N/A	0.213				
			EC25		N/A	N/A	0.103				
			EC40	6120	N/A	N/A	0.0163				
			EC50	18500	N/A	N/A	0.00541				
48h Survival F	Rate Summary				-				<u></u>		
Conc-%	Control Type	Count	Mean	95% LC	L 95% UCL	Min	Max	Std E	rr Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.95	0.913	0.987	0.8	1	0.018	I3 0.1	10.5%	5.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.95	0.913	0.987	8.0	1	0.018	3 0,1	10.5%	5.0%
50		4	8.0	0.694	0.906	0.4	1	0.051	6 0.283	35.4%	20.0%
100		4	0.95	0,913	0.987	8.0	1	0.018	3 0.1	10.5%	5.0%
48h Survival F	Rate Detail				·····						<del></del>
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		8.0	1	1	1						
12.5		1	1	1	1						
25		8.0	1	1	1						
50		8.0	1	0.4	1						

Report Date:

04 Sep-08 16:48 (p 1 of 2)

Test Code: 03-9288-2129/29460

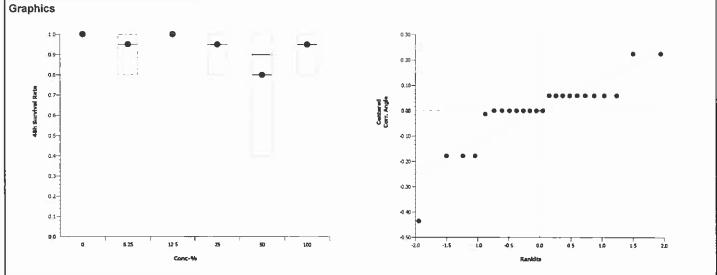
								lest	Code:		03-9288-	2129/29460
Acute Ceriod	aphnia	Survival '	Гest								Pacif	ic EcoRisk
Analysis No:	17-52	202-5189	End	point: 48h	Survival Ra	te	_	CETI	S Version:	CETISv1,	6.5	
Analyzed:		ep-08 16:4		•	parametric-		reatments	Offic	ial Results:	Yes		
Data Transfo	rm		Zeta	Alt Hyp	Monte Car	lo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)			C > T	Not Run		100	>100	N/A	1	21.7%	
Steel Many-O	ne Rai	nk Test										
Control	vs	Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water		6.25		16	10	1	0.6100	Non-Signi	ficant Effect		•	
		12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
		25		16	10	1	0.6100	Non-Signi	ficant Effect			
		50		14	10	1	0.3450	Non-Signi	ficant Effect			
		100		16	10	1	0.6100	Non-Signi	ficant Effect			
ANOVA Table	<del></del>					-	<del></del>					-
Source		Sum Squa	ires _	Mean Squ	iare	DF	F Stat	P-Value	Decision(	5%)		
Between		0.1360249		0.0272049	7	5	1.17	0.3620	Non-Signi	ficant Effect		
Error		0.4187306	i	0.0232628	31	18						
Total		0.5547554	7909737	0.0504677	8358519	23						
ANOVA Assu	ımptio	ns										
Attribute		Test			Test Stat	Critical	P-Value	Decision(	(1%)			
Variances		Mod Leve	ne Equality	of Variance	1.87	4.25	0.1490	Equal Var	iances			
Distribution		Shapiro-V	Vilk Normal	ity	8.0		0.0003	Non-norm	al Dîstributio	on		
48h Survival	Rate S	ummary					-					
Conc-%	Cont	rol Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab V	Vater	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25			4	0.95	0.912	0.988	0.8	1	0.0186	0.1	10.5%	5.0%
12.5			4	1	1	1	1	1	0	0	0.0%	0.0%
25			4	0.95	0.912	0.988	0.8	1	0.0186	0.1	10.5%	5.0%
50			4	0.8	0.692	0.908	0.4	1	0.0525	0,283	35.4%	20.0%
100			4	0.95	0.912	0.988	0.8	1	0.0186	0.1	10.5%	5.0%
Angular (Cor	rected	) Transfor	med Sumn	na <b>r</b> y					· ·			
Conc-%		rol Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab V		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25			4	1.29	1.24	1.33	1.11	1.35	0.0221	0.119	9.26%	4.43%
12.5			4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25			4	1.29	1.24	1.33	1.11	1.35	0.0221	0.119	9.26%	4.43%
50			4	1.12	1.24	1.24	0.685	1.35	0.0578	0.113	27.8%	16.7%
1			4	1.29	1,24			1.35	0.0376	0.512	9.26%	4.43%
100			4	1.29	1,24	1.33	1.11	1.33	0.0221	0.119	J.∠0%	4.43%

Report Date: Test Code:

04 Sep-08 16:48 (p 2 of 2)

03-9288-2129/29460

Acute Ceriodaphnia Survival Test Pacific EcoRisk Analysis No: 17-5202-5189 Endpoint: 48h Survival Rate **CETISv1.6.5 CETIS Version:** Analyzed: 04 Sep-08 16:47 Analysis: Nonparametric-Control vs Treatments Official Results: Yes Graphics



Report Date: Test Code:

04 Sep-08 16:48 (p 1 of 2)

U4	Sep-us	10,45	(p ı	ΟĪ	۷,
	กฉ.ฉ	288_21	20/2	NO	R٢

Acuto C												
Acute C	eriodaphn	ia Survival	Test								F	acific EcoR
Analysis	s No: 00-	9398-5095	End	point: 48h	Survival Ra	ate		CETI	S Version:	CETISV	1.6.5	
Analyze		Sep-08 16:4	7 Anal	•	ear Regress				ial Results:			
				<u> </u>						<u> </u>		
	Regression	Options										
	unction			Threshold			Optimized		Het Corr	Weighte	d	
Log-Norr	mal (NED=	A+B*log(X)]		Control Th	reshold	0	Yes	No	No	Yes		
Regress	sion Summ	nary										
Iters	LL	AlCc	Mu	Sigma	G Stat	Chi-Sq	Critical	P-Value	Decision(	5%)		
5	-24.7	54.1	5.22	1.9	3.02	28.7	28.9	0.0517		ficant Hete	rogenei	y
Point Es	stimates	-										
Level	Conc-%	95% LCL	95% UCL		TU	95% LCL	95% UCL					
EC2.5	3.55	N/A	N/A	<del></del>	28.2	N/A	N/A					
EC10	68.6	N/A	N/A		1.46	N/A	N/A					
EC15	200	N/A	N/A		0.5	N/A	N/A					
EC20	469	N/A	N/A		0.213	N/A	N/A					
EC25	972	N/A	N/A		0.103	N/A	N/A					
EC40	6120	N/A	N/A		0.0163	N/A	N/A					
EC50	18500	N/A	N/A		0.00541	N/A	N/A					
Pagrace	sion Param	eters						_	-			
_			C44 5	050/ 1 01	050/ 1101	4.04-4	D 14-1		mn/s			
Paramet Slope	ter	0.527	0.468	95% LCL -0.389	95% UCL 1.44	1.13	P-Value	Decision(				
intercept	,t	2.75	0.400	1.31	4.19	3.76	0.2740	_	ficant Param			
пистоср												
			0.102	1.01	4.15	3.70	0.0014	Significani	Parameter			
Residua	al Analysis		0.732		4.10	3.70	0.0014	Significani	Parameter			
Attribute	al Analysis e	Method			Test Stat		P-Value	Decision(				
Attribute Variance	al Analysis e es	Method Mod Lever	ne Equality o	of Variance	Test Stat		P-Value 0.3090		5%)			
Attribute Variance	al Analysis e es	Method Mod Lever		of Variance	Test Stat	Critical	P-Value	Decision( Equal Vari	5%)			
Attribute Variance Distribut	al Analysis e es	Method Mod Lever Shapiro-W	ne Equality o	of Variance	Test Stat	Critical 3.06	P-Value 0.3090	Decision( Equal Vari Non-norm	5%)			
Attribute /ariance Distributi	al Analysis e es tion vival Rate	Method Mod Lever Shapiro-W	ne Equality o	of Variance	Test Stat	Critical 3.06	P-Value 0.3090 0.0000	Decision( Equal Vari Non-norm	5%)			В
Attribute /ariance Distributi I8h Sur Conc-%	al Analysis e es tion vival Rate	Method Mod Lever Shapiro-W Summary	ne Equality ( filk Normalit	of Variance y	Test Stat 1.31 0.656	Critical 3.06	P-Value 0.3090 0.0000	Decision( Equal Vari Non-norm e(A/B)	5%) iances al Distributio	on	- A 20	B 20
Attribute Variance Distributi 18h Sur Conc-%	al Analysis e es tion vival Rate Contr	Method Mod Lever Shapiro-W Summary	ne Equality ( filk Normalit Count	of Variance y Mean	Test Stat 1.31 0.656	Critical 3.06 Calcu	P-Value 0.3090 0.0000 lated Variat	Decision( Equal Vari Non-norm e(A/B) Std Dev	5%) iances al Distributio CV%	on Diff%		
Attribute Variance Distributi 48h Sur Conc-% 0 5.25	al Analysis e es tion vival Rate Contr	Method Mod Lever Shapiro-W Summary	ne Equality of the fill of the	of Variance y Mean	Test Stat 1.31 0.656  Min 1	Critical 3.06  Calcu Max 1	P-Value 0.3090 0.0000 lated Variat Std Err 0	Decision( Equal Vari Non-norm e(A/B) Std Dev	5%) iances al Distributio	Diff% 0.0%	20	20
Attribute Variance Distribute 48h Sur Conc-% 0 5.25 12.5 25	al Analysis e es tion vival Rate Contr	Method Mod Lever Shapiro-W Summary	ne Equality of filk Normality  Count  4	Mean 1 0.95	Test Stat 1.31 0.656  Min 1 0.8	Critical 3.06  Calcu  Max 1	P-Value 0.3090 0.0000 lated Variat Std Err 0 0.0183	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1	5%) iances al Distributio	Diff% 0.0% 5.0%	20 19	20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25	al Analysis e es tion vival Rate Contr	Method Mod Lever Shapiro-W Summary	ne Equality of filk Normality  Count  4  4	Mean 1 0.95	Test Stat 1.31 0.656  Min 1 0.8 1	Critical 3.06  Calcu  Max 1 1 1	P-Value 0.3090 0.0000 lated Variat Std Err 0 0.0183 0	Decision( Equal Var Non-norm e(A/B) Std Dev 0 0.1	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%	Diff% 0.0% 5.0% 0.0%	20 19 20	20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25	al Analysis e es tion vival Rate Contr	Method Mod Lever Shapiro-W Summary	ne Equality of filk Normality  Count  4  4  4	Mean 1 0.95	Test Stat 1.31 0.656 Min 1 0.8 1	Critical 3.06  Calcu  Max 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%	Diff% 0.0% 5.0% 0.0% 5.0%	20 19 20 19	20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100	al Analysis e es tion vival Rate Contr	Method  Mod Lever Shapiro-W Summary rol Type Vater	Count  4  4  4  4	Mean 1 0.95 1 0.95 0.8	Test Stat 1.31 0.656 Min 1 0.8 1 0.8 0.4	Critical 3.06  Calcu  Max 1 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100	al Analysis e es cion vival Rate Contr Lab W	Method  Mod Lever Shapiro-W Summary rol Type Vater	Count  4  4  4  4	Mean 1 0.95 1 0.95 0.8	Test Stat 1.31 0.656 Min 1 0.8 1 0.8 0.4	Critical 3.06  Calcu  Max 1 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100 48h Sur Conc-%	al Analysis e es cion vival Rate Contr Lab W	Method Mod Lever Shapiro-W Summary rol Type Vater  Detail rol Type	Count 4 4 4 4	Mean 1 0.95 1 0.95 0.8 0.95	Test Stat 1.31 0.656  Min 1 0.8 1 0.8 0.4 0.8	Critical 3.06  Calcu  Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100 48h Sur Conc-%	al Analysis e es cition  Vival Rate Lab W	Method Mod Lever Shapiro-W Summary rol Type Vater  Detail rol Type	Count  4  4  4  4  4  4  Rep 1	Mean 1 0.95 1 0.95 0.8 0.95	Test Stat 1.31 0.656  Min 1 0.8 1 0.8 0.4 0.8	Critical 3.06  Calcu  Max 1 1 1 1 1 Rep 4	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100 48h Sur Conc-% 0 6.25	al Analysis e es cition  Vival Rate Lab W	Method Mod Lever Shapiro-W Summary rol Type Vater  Detail rol Type	Count  4 4 4 4 4 4 1 1	Mean 1 0.95 1 0.95 0.8 0.95	Test Stat 1.31 0.656  Min 1 0.8 1 0.8 0.4 0.8	Critical 3.06  Calcu  Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100 48h Sur Conc-% 0 6.25 12.5	al Analysis e es cition  Vival Rate Lab W	Method Mod Lever Shapiro-W Summary rol Type Vater  Detail rol Type	Count  4  4  4  4  1  Rep 1  1  0.8	Mean 1 0.95 1 0.95 0.8 0.95	Test Stat 1.31 0.656  Min 1 0.8 1 0.8 0.4 0.8	Critical 3.06  Calcu  Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20
Attribute Variance Distributi 48h Sur Conc-% 0 6.25 12.5 25 50 100	al Analysis e es cition  Vival Rate Lab W	Method Mod Lever Shapiro-W Summary rol Type Vater  Detail rol Type	Count  4 4 4 4 4 1 0.8	Mean 1 0.95 1 0.95 0.8 0.95	Test Stat 1.31 0.656  Min 1 0.8 1 0.8 0.4 0.8  Rep 3 1 1	Critical 3.06  Calcu  Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	P-Value 0.3090 0.0000 lated Variate Std Err 0 0.0183 0 0.0183 0.0516	Decision( Equal Vari Non-norm e(A/B) Std Dev 0 0.1 0 0.1 0.283	5%) iances al Distributio  CV%  0.0%  10.5%  0.0%  10.5%  35.4%	Diff% 0.0% 5.0% 0.0% 5.0% 20.0%	20 19 20 19 16	20 20 20 20 20

Report Date: Test Code: 04 Sep-08 16:48 (p 2 of 2) 03-9288-2129/29460

**Acute Ceriodaphnia Survival Test** Pacific EcoRisk Analysis No: 00-9398-5095 Endpoint: 48h Survival Rate **CETIS Version:** CETISv1.6.5 Analyzed: 04 Sep-08 16:47 Analysis: Linear Regression (MLE) Official Results: Yes **Graphics** 0.8 -15 -1.0 D.\$ 1.0 1.5 01

# 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DMC	Test Date:	7/30/08
Test Material:	N	WDS-002-TOX	Control/Diluent:	Conditioned 80:20
Test ID#:	29460	Project #13489	Control Water Batch:	Tank 3
Randomization:	261	_		
Feeding To	Time: <u>820</u>	_ Initials:	Feeding T46-hr Time: 08	15 Initials JPU

Treatment	Temp	р	Н	Е	).O.	Conductivity		# Live	Anima	ls	B' 08
- Treatment	(°C)	New	Old	New	Old	(μS/cm)	Α	В	С	D	Sign-Off
Control	20.3	8.46		3.7		251	5	5	5	5	Date: 7/30/04
6.25%	20.3	Q-38		7.5		325	5	5	5	5	Sample ID: 20179
12.5%	20.3	8.30		7.5		398	5	5	5	5	a way committee treep.
25%	20.3	8.18		7,8		527	5	5	5	5	New WQ: PW
50%	20,3	8.05		7.7		786	5	5	5	5	Initiation Time: 1415
100%	20.3	3.43		7.4		1269	5	5	5	5	Initiation Signoff: X
Meter ID	47	Dha		POIZ		ECOY					
Control	19.7		8.28		8.5	275.8	5	5	5	5	Date: 7/31/08
6.25%	19.7		8.35		9.0	534	4	5	5	5	Count Time: 09 20
12.5%	19.7		8-39		8.9	404	5	5	5	5	Count Signoff:
25%	19.7		8.44		8.7	531	4	5	5	5	Old WQ: 53
50%	19.7		8.50		8-8	793	5	5	Ч	5	
100%	19.7		8.60		8-8	1302	5	5	5	5	
Meter ID	55		phil		D012	8004			64		
Control	20.3	8.10	8.29	85	8.0	247.9	5	5	5	5	Date: 8/1/08
6.25%	20.3	8:19	8.30	8.6	7.9	325	4	5	5	5	Sample ID: 20179
12.5%	20.3	8.14	8 -33	8.6	7.3	403	5	5	5	5	Test Solution Prep:
25%	20.3	8.05	8.40	8.4	7.7	540	ч	5	5	5	New WQ: 3
50%	20.3	7.94	8.47	8.6	7.60	8 03	ч	5	2	5	Count Time: JPS 171
100%	20.3	7.82	8.62	8.9	7.3	1297	5	4	5	5	Count Signatives
Meter ID	47	phos	phoa	Doct	0012	€001					Old WQ: PE
Control	19.6		9.23		4.4	275	5	5	5	5	Date: 8/2/09
6.25%	19.6		425		9.1	327	ч	5	5	5	Count Time: 930
12.5%	19.6		9.27		16	1101	5	5	5	5	Count Signoff:
25%	19.6		4-31		4,7	รบ	ч	5	5	5	Old WQ: Muc
50%	19.6		9.46		a.0	742	ч	5	2	5	1 1/20-
100%	19.6		952		9.7	1299	5	4	5	5	1
Meter ID	55		0403		p 01 Z	Eurl					
Control	20.5		8.35		8.7	279	5	5	5	5	Date: 813/08 Termination Lime:
6.25%	20.5		8.32		8.8	366	4	5	5	5	Termination Time:
12.5%	20.5		8.32		8.8	441	5	5	5	5	Termination Signoff:
25%	2015		8.33		8.8	585	4	5	2	-	old MO
50%	20.5		8.45		8.7	878	4	5	ユ	5	5L
100%	20.5	<del></del>	8.55		8.7	1427	2	4	5	-	
Meter ID	47		PH II		00 14	ECDI			0	7	

Report Date: Test Code: 04 Sep-08 17:09 (p 1 of 1)

05-3173-0283/29461

							ı e	st Code:		05-3173	3-0283/2940
Acute Cerioda	phnia Survival	Test								Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	06-6695-7567 31 Jul-08 11:45 04 Aug-08 10:1 94h	5 ;	Test Type: Protocol: Species: Source:	Survival (48h) EPA/821/R-02 Ceriodaphnia In-House Cultu	dubia		Di Br	luent: S	ohn Jirasritum pring Water lot Applicable	rong	
•	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	i	Code: Material: Source: Station:	NWDS-003 Ambient Wate URS NWDS	r		-		IRS 3489		<del></del>
Comparison S	Summary		_					-			
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Method	t		
19-2963-4590	48h Survival Ra	ate	100	>100	N/A	5.0%	1	Steel M	lany-One Rani	Test	
48h Survival F	Rate Summary	Count	Mean	059/ 1.01	95% UCL	841-	14	04. F-	. CH D	0) 10/	D:(m/
0	Control Type Lab Water	4	. iviean	95% LCL	1	Min 1	Max	Std Eri	Std Dev	CV%	Diff%
6.25	CDD 448(C)	<b>-</b> 7 ∡	1	1	1	1	1	0	0	0.0% 0.0%	0.0% 0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
48h Survival F	Rate Detail				<u></u>	-					
Conc-%	Control Type	Rep 1	Rep 2	. Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Analyst: M QA: M

Report Date:

04 Sep-08 17:08 (p 1 of 2)

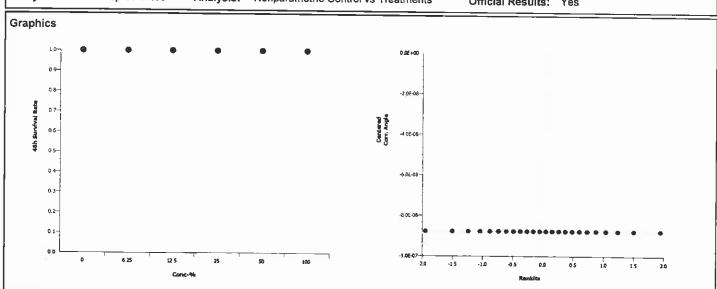
Test Code: 05-3173-0283/29461

							1030	Oude.		00-0110	-0203/2340
Acute Ceriod	aphnia Survival	Test								Paci	fic EcoRis
Analysis No:	19-2963-4590	Enc	Ipoint: 48h	Survival Ra	te		CETI	S Version:	CETISv1	6.5	
Analyzed:	04 Sep-08 17:0			parametric-		realments			Yes		
							-				<del></del>
Data Transfo		Zeta	Alt Hyp	Monte Car	rlo	NOEL	LOEL	TOEL	TU	PMSD	_
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	5.0%	
Steel Many-O	ne Rank Test					•					
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect	- <u>-</u>		-
	12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	<del></del>										
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision(5	5%)		
Between	0		0		5	65500	0.0000	Significant	Effect		
Error	0		0		18						
Total	0		0		23						
ANOVA Assu	mptions								-		
Attribute	Test			Test Stat	Critical	P-Value	Decision(	1%)			
Variances	Mod Leve	ene Equality	of Variance	65500	4.25	0.0000	Unequal V	/ariances			
48h Survival	Rate Summary				_			<u>-</u>			
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
Angular (Cor	rected) Transfor	med Sumi	mary								<del></del>
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
50		4						_	_		
50		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
100		4	1.35	1,35	1.35	1.35	1.35	0	0	0.0%	0.0%

Report Date: Test Code:

04 Sep-08 17:08 (p 2 of 2) 05-3173-0283/29461

Acute Ceriodaphnia Survival Test Pacific EcoRisk Analysis No: 19-2963-4590 Endpoint: 48h Survival Rate CETIS Version: **CETISv1.6.5** Analyzed: 04 Sep-08 17:08 Nonparametric-Control vs Treatments Analysis: Official Results: Yes



## 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DMC		Test Date:	7131108	
Test Material:		NWDS-003-TO	Κ	Control/Diluent:	Conditioned 80:20	
Test ID#:	29461	Project #	13489	Control Water Batch:	Tankl	
Randomization:	C.6.8				_	

Tanatanat	Temp	р	Н	D	.O.	Conductivity		# Live .	Animal	s	S: Off
Treatment	(°C)	New	Old	New	Old	(µS/cm)	Α	В	C	D	Sign-Off
Control	200	8.28		8.8		256	5	5	5	5	Date: 7/3/108
6.25%	20.0	8.25		8.8		295	5	5	5	5	Sample ID:
12.5%	20.	8.22		8.9		340	5	5	5	5	
25%	2010	8.14		9.0		404	5	5	5	5	New WQ: 54
50%	20.6	8.01		9.3		550	5	5	5	5	Initiation Time:
100%	26.6	7,78		9.8		826	5	5	5	5	Initiation Signoff:
Meter ID	47	PH II	T T	DO 12		Er 04					and the state of t
Control	20.2		8.20		8.2	292	5	5	5	5	Date: 0/1/08
6.25%	20.2		8 16		8.6	305	5	5	5	5	Count Time: )030
12.5%	20.2		8.19		7.8	341	5	5	5	5	Count Signoff:
25%	202		8.19		7.8	412	5	5	5	5	Old WQ:
50%	20.2		8.20		7.8	556	5	5	5	5	
100%	70.2		8.19		8.6	845	5	5	3	5	ALCOCHERGE CONTRACTOR OF THE PROPERTY OF THE P
Meter ID	47		Dho3		9014	Ecol					
Control	204	8.16	4.23	8.6	94	265	5	5	5	5	Date: 8/2/68
6.25%	204	8.12	924	8.4	9.7	302	S	5	5	5	Sample ID: Z0180
12.5%	20.4	8.08	4.25	8.5	6.7	336	5	5	5	5	Test Solution Prep:
25%	20.4	8.00	4.22	8.5	8.8	403	5	5	5	5	New WQ: )LR
50%	204	7.94	4-24	8.4	8-4	531	5'	5	5	5	Count Time:
100%	20.4	7.71	8.18	7.9	9.4	787	5	5	5	5	Count Signoff:
Meter ID	55	11 40	pho7	Dolo	5/00	Ecos	-81	1			Old WQ: Non
Control	20.2		9.45		9.9	288	5	5	5	5	Date: / 8/3/08
6.25%	20.2		836		8.7	322	5	5	5	45	Count Time: / 0 550
12.5%	20.2		8.74		9.5	354	5	5	5	5	Count Signoff:
25%	20.2	//IIIE	9.25		9,9	426	5	5	5	5	Old WQ1 AAA
50%	20.2		4.64		47	514	5	5	5	5	Aug
100%	20.2		9.30		8.7	e45	5	5	5	5	
Meter ID	47		403	MAN	1012	VIN LOS					Artico prompto de la colonge d
Control	20.2		4.31		8.6	1991	3	5	5	5	Date: 814108
6.25%	26 1		133		8.6	343	5	2	3	5	Termination Time:
12.5%	20.2		4.32	, , ,	4.7	374	5	5	5		Termination Signoff:
25%	20.2		7.33		860	447	5	5	5	5	Old WQ: JW
50%	2.12		9.32		8.7	546	5	5	5	5	
100%	20.2		4.31		8.6	464	5	5	5	5	
Meter ID	47		2403		210	1001			1		- And Andrews - Marie - Andrews - Marie - Mari

Report Date: Test Code:

04 Sep-08 17:15 (p 1 of 1)

17-1632-5207/29462

							162	: Code:		17-1032	-5207/2946
Acute Cerioda	aphnia Survival	Test								Paci	fic EcoRisk
Test Run No: Start Date: Ending Date: Duration:	13-3771-8234 01 Aug-08 15:2 05 Aug-08 13:4 94h	0 5	Test Type: Protocol: Species: Source:	Survival (48h) EPA/821/R-02- Ceriodaphnia d In-House Cultu	ubia				John Jirasritum Spring Water Not Applicable 1	rong	·
	20-9391-4618 31 Jul-08 06:40 31 Jul-08 12:04 33h (13.4 °C)	İ	Code: Material: Source: Station:	NWDS-004 Ambient Water URS NWDS			Clie Proj	nt: ject:	URS 13489		
Comparison 5	Summary					-				<del>.</del>	
Analysis No 11-7809-1374	Endpoint 48h Survival Ra	ite	NOEL 100	LOEL >100	TOEL N/A	PMSD 11.3%	TU 1	Meth	od Many-One Rani	Test	
Point Estimate	e Summary			<del></del>							
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	od		
18-4674-1913	48h Survival Ra	ate	EC2.5 EC10 EC15 EC20 EC25 EC40 EC50	320 649 1140 1840 6190	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A	2.2 0.312 0.154 0.0879 0.0543 0.0162 0.00779	Linea	r Regression (M	LE)	
48h Survival F	Rate Summary					-					
Conc-%	Control Type	Count			95% UCL	Min	Max	Std E	rr Std Dev	CV%	Diff%
0 6.25 12.5 25 50 100	Lab Water	4 4 4 4 4	1 1 0.95 1 0.95	1 1 1 0.913 1 0.913	1 1 0.987 1 0.987	1 1 0.8 1 0.8	1 1 1 1 1	0 0 0 0.018 0	0	0.0% 0.0% 0.0% 10.5% 0.0% 10.5%	0.0% 0.0% 0.0% 5.0% 0.0% 5.0%
48h Survival F	Rate Detail	_			·						-
Conc-% 0 6.25 12.5 25 50	Control Type Lab Water	Rep 1 1 1 1 1 1 1 1	Rep 2 1 1 1 1 1 1 0.8	Rep 3  1  1  1  0.8  1	Rep 4  1  1  1  1  1  1  1						

Analyst: QA: Sn

Report Date: Test Code: 04 Sep-08 17:15 (p 1 of 2)

17-1632-5207/29462

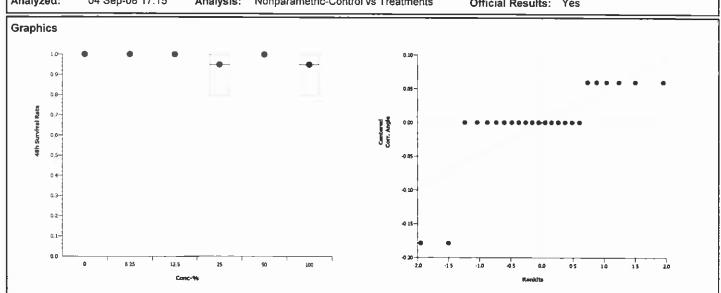
Acute Ceriod	aphnia Surviva	Test								Paci	fic EcoRi:
Analysis No: Analyzed:	11-7809-1374 04 Sep-08 17:		•	48h Survival R Nonparametric		reatments		IS Version:	= : :	.6.5	
Data Transfoi	rm	Zeta	Alt Hy	p Monte Ca	ırlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	11.3%	
Steel Many-O	ne Rank Test										
Control	vs Conc-%		Test S	tat Critical	Ties	P-Value	Decision	(5%)			
Lab Water	6.25		18	10	1	0.8330		ficant Effec			
	12.5		18	10	1	0.8330	_	ficant Effec			
	25		16	10	1	0.6100	-	ificant Effec			
	50		18	10	1	0.8330	_	ficant Effec			
	100		16	10	1	0.6100	•	ficant Effec			
ANOVA Table	<del></del>										
Source	Sum Squ	lares	Mean :	Square	DF	F Stat	P-Value	Decision	(5%)		
Between	0.018902	63	0.0037	80527	5	0.8	0.5640	Non-Sign	ificant Effect		
Error	0.085061	85	0.0047	25658	18			•			
Total	0.103964	48150277	0.0085	0618490949	23						
ANOVA Assu	mptions									_	
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equali	ty of Varia	nce 0.8	4.25	0.5640	Equal Var	iances			
Distribution	Shapiro-	Wilk Norma	ality	0.615		0.0000	Non-norm	al Distributi	on		
48h Survival i	Rate Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.95	0.912	0.988	0.8	1	0.0186	0.1	10.5%	5.0%
50		4	1	1	1	1	1	0.0100	0	0.0%	0.0%
100		4	0.95	0.912	0.988	0.8	1	0.0186	0.1	10.5%	5.0%
Angular (Cori	rected) Transfo	rmed Sum	ımarv								
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
- 6.25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25		4	1.29					-	=		
20 50		•		1.24	1.33	1.11	1.35	0.0221	0.119	9.26%	4.43%
		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
100		4	1.29	1.24	1.33	1.11	1.35	0.0221	0.119	9.26%	4.43%

Report Date: Test Code: 04 Sep-08 17:15 (p 2 of 2) 17-1632-5207/29462

Acute Ceriodaphnia Survival Test

Analysis No: 11-7809-1374 Endpoint: 48h Survival Rate CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 17:15 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



Report Date: Test Code: 04 Sep-08 17:15 (p 1 of 2)

17-1632-5207/29462

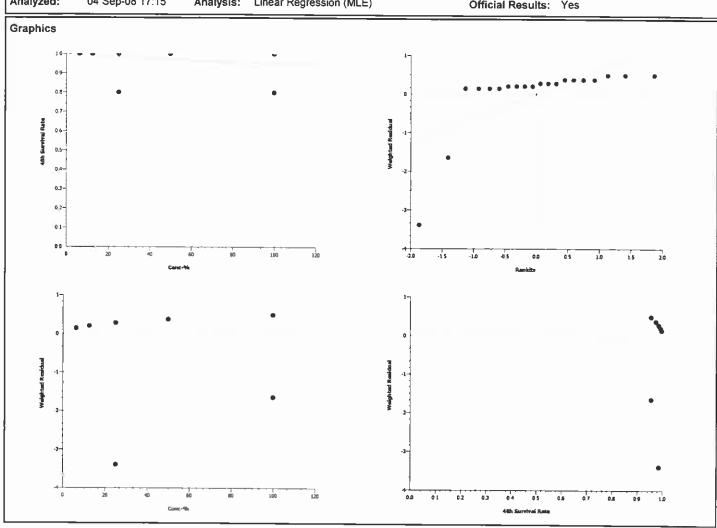
						_						
Acute Ce	eriodaphi	nia Survival	Test								Pa	cific EcoRi
Analysis		-4674-1913		ipoint: 4	8h Survival Ra	ate		CETI	S Version:	CETISV	1.6.5	
Analyzed	1: 04	Sep-08 17:1	5 Ana	ılysis: L	inear Regress	ion (MLE)		Offic	ial Results	Yes		
Linear R	egressio	n Options										
Model Fu				Thresh	old Option	Threshold	Optimized	Pooled	Het Corr	Weighte	ed	
		A+B*log(X)]			Threshold	0	Yes	No	No	Yes		
Dogracei	ion Sumr	nan:								<del></del>		
_	LL LL	AICc	Mu	Ciarra a	C St-1	Ohi C	0-1511	D 1/-1	Destates	(E0/)		
	-9.25	23.2	2.15	Sigma 1.25	G Stat 3.91	Chi-Sq 15.9	Critical 28.9	<b>P-Value</b> 0.5970	Decision(	ficant Hete	rogonoih	
		25.2	2.10	1.25		15.5	20.5	0.5570	Non-Sign			
Point Es	timates											
	Сопс-%	95% LCL	95% UCL	. <u> </u>	TU	95% LCL	95% UCL					
	45.4	N/A	N/A		2.2	N/A	N/A					
	320	N/A	N/A		0.312	N/A	N/A					
	649	N/A	N/A		0.154	N/A	N/A					
EC20	1140	N/A	N/A		0.0879	N/A	N/A					
EC25	1840	N/A	N/A		0.0543	N/A	N/A					
EC40	6190	N/A	N/A		0.0162	N/A	N/A					
EC50	12800	N/A	N/A		0.00779	N/A	N/A					
Regressi	ion Parar	neters		_	<del></del>	<u>-</u>		-				<del></del>
Paramet	er	Estimate	Std Erro	95% LC	L 95% UCL	t Stat	P-Value	Decision(	5%)			
Slope		0.799	0.806	-0.781	2.38	0.992	0.3350	Non-Signi	ficant Paran	neter		<del></del>
Intercept		1.72	1.35	-0.938	4.37	1.27	0.2210	Non-Signi	ficant Paran	neter		
Residual	l Analysis	3				<del></del>						
Attribute	)	Method			Test Stat	Critical	P-Value	Decision(	5%)			
Variance:		Mod Lever	ne Equality	of Variano		3.06	0.5540	Equal Var				
Distribution			/ilk Normali		0.477		0.0000		al Distribution	on		
48h Surv	/ival Rate	Summary				Calcu	lated Variat	e(A/B)		<del></del>		<del></del> -
Conc-%		rol Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	— А	В
0		Nater	4	1	1	1	0	0	0.0%	0.0%	20	20
6.25			4	1	1	1	0	0	0.0%	0.0%	20	20
12.5			4	1	1	1	0	0	0.0%	0.0%	20	20
25			4	0.95	0.8	1	0.0183	0.1	10.5%	5.0%	19	20
50			4	1	1	1	0	0	0.0%	0.0%	20	20
100			4	0.95	0.8	1	0.0183	0.1	10.5%	5.0%	19	20
48h Surv	ival Rate	Detail									· ·	
Conc-%	Cont	rol Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab \	Vater	1	1	1	1	_				-	
6.25			1	1	1	1						
12.5			1	1	1	1						
25			1	1	0.8	1						
50			1	1	1	1						
100			1		1	1						
00			1	0.8	1	1						

Report Date: Test Code:

04 Sep-08 17:15 (p 2 of 2)

17-1632-5207/29462

**Acute Ceriodaphnia Survival Test** Pacific EcoRisk Analysis No: 18-4674-1913 Endpoint: 48h Survival Rate **CETIS Version:** CETISv1.6.5 Analyzed: 04 Sep-08 17:15 Analysis: Linear Regression (MLE) Official Results: Yes



Feeding TO Time: 8:30 Initials: YK

Feeding T46-hr Time: 8:01 Initials TPW

## 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DMC		Test Date:	8/1	2008	
Test Material:		NWDS-004-TOX	(	Control/Diluent:	Cond	itioned 80:20	
Test ID#:	29462	Project #	13489	Control Water Batch:	Tan	NK 213	
Randomization:	4.6.5						

	Т	n	Н	D	.O.	9400000000000000		# Live	Animal		
Treatment	Temp (°C)	New	Old	New	Old	Conductivity (µS/cm)	A	В	С	D	Sign-Off
Control	10-1	8.16		8.7		260	5	5	5	5	Date: 8 /1/2008
6.25%	20,1	9.14	(1)	8.5		278	5	5	5	5	Sample ID:
12.5%	20-1	8.13		8.6		290	5	5	5	5	Test Solution Prep:
25%	20.1	8.09		87		379	5	5	5	5	New WQ:
50%	20.1	17-99		87		376	5	5	5	5	Initiation Time:
100%	20.1	7-81		8.5		491	5	5	5	5	Initiation Signoff:
Meter ID	47	1403		0014		600					
Control	19.6		829		5.7	295	5	5	5	5	Date: 9/2/2008
6.25%	19.6		9.26		9.7	271	5	5		5	Count Time: 930
12.5%	9.6		8.19		86	325	5	5	5	5	Count Signoff:
25%	19.6		4.30		430	377	5	55	5	5	Old WQ: MMB -
50%	14.6		847m		4.3	417	5	5	5	5	
100%	17.6		8.08		8.0	427	5	4	5	5	
Meter ID	55		DH05		2100	EC04					
Control	2013	8.30	4,07	8.8	80	261	5	5	5	5	Date: 8/3/2008
6.25%	70.3	8.28	9.09	8.9	8.1	278	5	5	5	5	Sample ID:
12.5%	20.3	8.25	8,09	8.9	4.5	290	5	5	5	5	Test Solution Prep
25%	20.3	8.18	8.13	9,0	8.2	321	5	5	4	5	New WQ: 5'L
50%	20.3	8.08	9.05	9.2	7.9	373	5	5	5	5	Count Time: 1255
100%	20.3	7.93	8.05	9.4	8.0	484	5	4	5	5	Count Signoff: RV
Meter ID	47		POHO	2012	0010	ELOA					Old WQ: MA
Control	20.2		8.27		8.4	363	5	5	5-	5	Date: 8/4/08
6.25%	20.Z		8.28		8.5	307	5	5	5	5-	Count Time: 09:00
12.5%	20.2		8,27		8.5	321	5	5	5-	ح	Count Signoff:
25%	20.2		8.25		85	335	5	5	4	5	Old WQ: SL
50%	raz		8.24		8.5	409	5-	5	5-	5	
100%	20.7		8.17		8.3	536	5	4	5	5-	
Meter ID	55		PH 03		0012	ECOI				4,55	
Control	20,4		8.34		7.2	318	7	2	3	5	Date: 8/5/68
6.25%	20,4		8.40		7.2	318	7	5	5	5	Termination Time:
12.5%	20.4		8-43		7.3	320	5	7	Ţ	5	Termination Signoff
25%	20.4		8.43		7-3	380	5	5	4	5	Old WQ:
50%	20.4		8-42		7.3	428	5	5	5	5	
100%	20.4		8 37		7.3	\$71	5	4	5	5	
Meter ID	47		plos		DRIO	6c05					

129/255

Report Date:

04 Sep-08 16:55 (p 1 of 1)

Test Code:

10-3619-6860/29463

Acute Cerioda	phnia Survival T	est										Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	07-5739-3668 30 Jul-08 16:10 03 Aug-08 15:35 95h	Pro Spe	t Type: tocol: ecies: urce:	Survival (4 EPA/821/F Ceriodaph In-House (	R-02-012 nia dubia				Analyst: Diluent: Brine: Age:	Spr	n Jirasritumr ing Water Applicable	ong	
•	07-9557-0216 29 Jul-08 08:00 29 Jul-08 11:50 32h (18.1 °C)	So	de: terial: urce: tion:	SJRDS-00 Ambient V URS SJRDS	-				Client: Project:	UR: 134			
Comparison S	ummary								-				
Analysis No	Endpoint		NOEL	. LOEI	. тс	DEL	PMSD	TU	М	ethod			
08-6015-9051	48h Survival Rat	te	100	>100	N/	Ά	5.0%	1	St	eel Mar	ny-One Rank	Test	
48h Survival F	Rate Summary									-			
Conc-%	Control Type	Count	Mean	95%	LCL 95	% UCL	Min	Max	S	d Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1		1	1	0		0	0.0%	0.0%
6.25		4	1	1	1		1	1	0		0	0.0%	0.0%
12.5		4	1	1	1		1	1	0		0	0.0%	0.0%
25		4	1	1	1		1	1	0		0	0.0%	0.0%
50		4	1	1	1		1	1	0		0	0.0%	0.0%
100		4	1	1	1		1	1	0		0	0.0%	0.0%
48h Survival F	Rate Detail												
Conc-%	Control Type	Rep 1	Rep 2	! Rep	3 Re	ep 4							
0	Lab Water	1	1	1	1								
6.25		1	1	1	1								
12.5		1	1	1	1								
25		1	1	1	1								
50		1	1	1	1								
100		1	1	1	1								

Report Date: Test Code:

04 Sep-08 16:55 (p 1 of 2) 10-3619-6860/29463

Acute Ceriod	laphnia Survival	Test								Paci	ific EcoRisk
Analysis No:	08-6015-9051	En	dpoint: 48h	Survival Ra	ıte		CET	S Version:	CETISv1	.6.5	
Analyzed:	04 Sep-08 16:		•		Control vs T	reatments		ial Results:	Yes		
	<u></u>			·							
Data Transfo		Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corr	ected)		C>T	Not Run		100	>100	N/A	1	5.0%	
Steel Many-C	ne Rank Test							· · · · · ·			
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	(5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	0										
Source	Sum Squ	iares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0		0		5	65500	0.0000	Significant	Effect		
Error	0		0		18			ŭ			
Total	0		0		23						
ANOVA Assu	ımptions		-						_		<del></del>
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance	65500	4.25	0.0000	Unequal \				
48h Survival	Rate Summary					-		<u> </u>			
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
100			<u>'</u>	<u>'</u>	<u>'</u>	<u>'</u>	<u> </u>			0.070	<del></del>
Angular (Cor	rrected) Transfo	rmed Sum	mary								
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
50		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
1											

0

0.0%

0.0%

1.35

4

1.35

1.35

1.35

1.35

0

100

Report Date:

04 Sep-08 16:55 (p 2 of 2) 10-3619-6860/29463

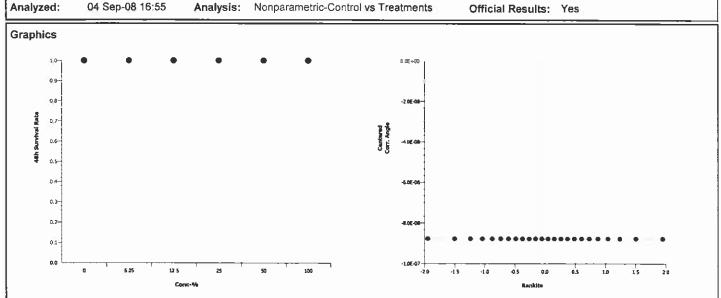
Test Code: 10-3619-6860/29463

Pacific EcoRisk

Acute Ceriodaphnia Survival Test

Analysis No: 08-6015-9051 Endpoint: 48h Survival Rate CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 16:55 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



## 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DM	<u> </u>	Test Date:	7130108	
Test Material:	S.	JRDS-001-T	OX	Control/Diluent:	Conditioned 80:20	
Test ID#:	29463	Project #	13489	Control Water Batch:	Tank#1	
Randomization:	C-6-1		_	-		
Feeding T0	Time: 800	Initials: _	YIC	Feeding T46-hr Time:	0845 Initials JPC	

Treatment	Temp	р	Н	D	.O.	Conductivity		# Live	Anima	ls	S: Off
reaument	(°C)	New	Old	New	Old	(µS/cm)	Α	В	С	D	Sign-Off
Control	20.2	8.34		8.3		253	5	5	5	5	Date: 1/30/04
6.25%	70.2	8.31		8.4		377	5	5	5	5	Sample ID: 2017 Test Solution Prep:
12.5%	20.2	8.30		8.6		473	5	5	5	5	701
25%	20.2	8.26		8.7		648	5	5	5	5	New WQ: ASR
50%	20.2	8.23		8.8		1030	5	5	5	5	Initiation Time 10
100%	20.2	8.19		9.2		1713	5	5	5	5	Initiation Signoff:
Meter ID	47	PH03		0014		EC05					
Control	19,4		2.30		7.9	291.7	5	5	5	5	Date: 1/3//08
6.25%	19,9		8.34		8.0	348	3	5	3	5	Count Time: 1040
12.5%	19-8		1.37		8.0	481	5	5	5	5	Count Signoff: O
25%	19.8		8 291		8-1	655	5	5	5	5	Old WQ:
50%	19,8		8.45		8,3	1046	5	5	5	5	
100%	19.6		8.52	N E	8-3	1747	3	5	3	5	TO STATE OF THE ST
Meter ID	47		ph03	E = 1	3010	8005					the latter than the state of th
Control	20.[	8.10	8.05	8.7	8.1	248.2	5	5	5-	5	Date: 8/1/08
6.25%	20.1	8.23	8.28	8.6	8.4	340	5	5	5	5	Sample ID: 70171
12.5%	20,1	8.24	8.58	8.7	8.4	384	5	5	5	5	Test Solution Prep:
25%	201	2.18	8.39	8.9	8.3	571	5	5	5	5"	New WQ:
50%	20-1	8.11	8.45	9.1	8.5	850	5	5	5	5	Count Time; 1430
100%	20.1	8.04	8.51	9.4	8.8	1409	5	5	5	5	Count Signoff:
Meter ID	47	ph-03	PHUS	Doit	DOM	Ecol					Old WQ: HTA
Control	20.1		5.12		8.5.	249	5	5	5	5	Date: 8/2/08
6.25%	20.1		8,19		8.4	336	5	5	5	5	Count Time: /200
12.5%	20.1		823		8.2	390	5	5	5	5	Count Signoff:
25%	20.1		8.32		8.01	566	5	5	5	5	Old WQ: Amp
50%	20.1		8,45		8.6	851	5	5	5	5	1000
100%	20.1		4.57		84	1413	5	5	5	5	HANNES CONTRACTOR OF THE PARTY
Meter ID	55		EH43		2100	Ec04			J. 0		
Control	20.5		8.25		8.6	323	5	5	5	5	Date: 8/3/08
6.25%	20.5		8.34		8.8	399	5	5	5	5	Terminattan Time:
12.5%	20.5		8.33		8.8	42.3	5	5	5	5	Lermination Stenott
25%	20.5		8.41		8,7	653	5	5	5	5	Old WQ: 5L
50%	20.5		8.57		9.1	900	5	5	5	5	- Harrison State and and and and
100%	20.5		8.64		4.3	1625	5	5	5	5	<del>- COOK TO THE REPORT OF THE PROPERTY OF THE P</del>
Meter ID	47		PH /I		0014	ECOI					

Report Date: Test Code: 12 Sep-08 14:47 (p 1 of 1)

13-6481-0825/29464

							,	00 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0			
Acute Cerioda	phnia Survival	Test					_			Pacif	ic EcoRis
Test Run No:	10-3951-8980	Te	st Type:	Survival (48h)			An	alyst: .	John Jirasritumi	rong	
Start Date:	30 Jul-08 18:00	) Pr	otocoi:	EPA/821/R-02-	-012 (2002)		Dil	uent:	Spring Water		
Ending Date:	03 Aug-08 16:1	5 <b>S</b> p	ecies:	Ceriodaphnia o	lubia		Br	ine: I	Not Applicable		
Duration:	94h	Sc	ource:	In-House Cultu	ire		Ag	je:	<u> </u>		
Sample No:	20-7608-5873	Co	ode:	SJRDS-002			CII	ient:	JRS		_
Sample Date:	29 Jul-08 23:38	B Ma	aterial:	Ambient Water	r		Pr	oject:	13489		
Receive Date:	30 Jul-08 13:50	) Sc	ource:	URS							
Sample Age:	18h (5 °C)	St	ation:	SJRDS							
Comparison S	Summary								<del>-</del>		
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Metho	d		
16-1052-2145	48h Survival Ra	ate	100	>100	N/A	12.5%	1	Steel I	Many-One Rank	(Test	
48h Survival I	Rate Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	r Std Dev	CV%	DIff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	0.9	0.857	0.943	0.8	1	0.0211	0.115	12.8%	10.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	0.9	0.857	0.943	8.0	1	0.021	0.115	12.8%	10.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
48h Survival I	Rate Detail										
Conc-%	Control Type	Rep 1	Rep 2	2 Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	1						
12.5		1	8.0	0.8	1						
25		1	1	1	1						
50		8.0	1	1	0.8						
100		1	1	1	1						

Report Date:

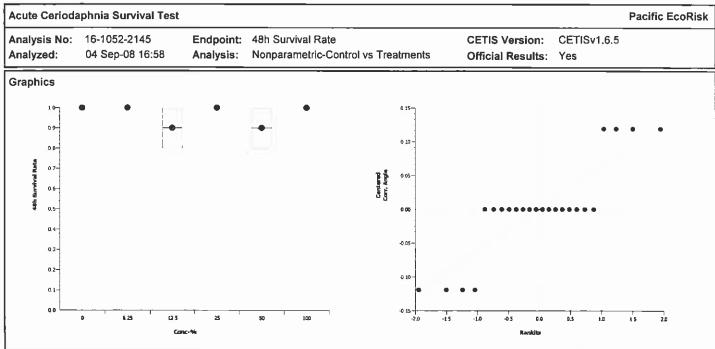
04 Sep-08 17:00 (p 1 of 2)

Test Code: 13-6481-0825/29464

Acute Ceriodaphnia Survival Test		0020/20 .0									
Acute Ceriod	aphnia Survival	Test							-	Pacif	ic EcoRis
Analysis No:	16-1052-2145	Enc	Incint: 48h	Survival Ra	te		CETI	S Version:	CETISv1.	6.5	
•						reatments					
Analyzeo.	04 Cop Co 10.0	70 7116						idi Nosalis.			
Data Transfo	rm	Zeta	Alt Hyp	Monte Car	rlo				TU		
Angular (Corr	ected)		C > T	Not Run		100	>100	N/A	1	12.5%	
Steel Many-C	ne Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		14	10	1	0.3450	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		14	10	1	0.3450	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	e										
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0.075610	53	0.0151221	1	5	2.4	0.0780	Non-Signif	icant Effect		
Error	0.113415	8	0.0063008	78	18						
Total	0.189026	33339167	0.0214229	8407853	23						
ANOVA Assu	ımptions										
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance	65500	4.25	0.0000	Unequal \	/ariances			
Distribution						0.0001	Non-norm	al Distributio	n		
48h Survival	Rate Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	0.9	0.856	0.944	8.0	1	0.0214	0.115	12.8%	10.0%
		4	1	1	1	1	1	0	0	0.0%	0.0%
				0.856	0.944	0.8		0.0214	0.115	12.8%	10.0%
l f f											0.0%
Angular (Co	rrected) Transfor	med Sum	mary								
				95% LCI	95% UCI	Min	Max	Std Err	Std Dev	CV%	Diff%
											0.0%
1 -	COD VIOLO								_		0.0%
		·									8.85%
		•									0.0%
1											
1											8.85%
100		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%

Report Date: Test Code: 04 Sep-08 17:00 (p 2 of 2)

13-6481-0825/29464



# 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DMC	Test Date:	7/30/08	
Test Material:	5	JRDS-002-TOX	Control/Diluent:	Conditioned 80:20	
Test ID#:	29464	Project # 13489	Control Water Batch:	Tank 1	
Randomization:					
Feeding To	Time: <b>430</b>	Initials: YK	Feeding T46-hr Time:	10845 Initials JPC	

	Temp	р	Н	D	.O.	Conductivity		# Live /	Animal	S	C. Ott
Treatment	(°C)	New	Old	New	Old	(μS/cm)	Α	В	С	D	Sign-Off
Control	19.7	2.17		チャゥ		252	5	5	5	5	Date: 7/30/08
6.25%	19.7	8.19		7.6		322	5	5	5	5	Sample ID: 2017
12.5%	19.7	8.18		7.5		370	5	5	5	5	Test Solution Prep
25%	19.7	8.12	la 🚃	7.6		522	5	5	5	5	New WQ:
50%	19.7	8.03		7.3		771	5	5	5	5	Initiation Time:
100%	19.7	7.89		7,8		1254	5	5	5	5	Initiation Signoff:
Meter ID	55	PhII		Dorz		Eco4					A STATE OF THE STA
Control	19.8		8. 40		1,18	169	5	5	5	5	Date: 7/3/108
6.25%	[9.8		8.41	Line	8.1	337	5	کہ	5	5	Count Time: 055
12.5%	19.8		8.42		8.1	3rs	5	4	5	3	Count Signoff:
25%	19.6		8.42		8.2	544	5	5	5	3	Old WQ:
50%	19.4	14-11-11	8.40		8.2	803	5	5	3	-5	A TOTAL TOTA
100%	198		8.40		8.1	/32€	5	5	5	5	ting to the state of the state
Meter ID	47		ph 03		0010	Ec05					
Control	19.7	8-19	8.21	8.6	8.3	294	5	5	5	5	Date: 6/1/08
6.25%	11.7	8.21	8.23	8.6	8.3	347	5	5	5	5	Sample ID: Z0177
12.5%	19.7	8.20	8.25	8.4	8.4	368	5	4	5	5	Test Solution Prep:
25%	13.7	9.14	8.27	8.6	8.3	514	5	5	5	5	New WO
50%	11.7	8.10	8-28	8.6	8,4	776	5	5	2	5	Count Time: 1730
100%	10.7	7.93	8.34	9.6	6-3	1297	5	5	5	5	Count Signoff:
Meter ID	47	DH03	p403	D014	po14	troi					Old WO:
Control	19.7		1.38		9.2	790	5	5	5	5	Date: 8/2/08
6.25%	19.7		9.36		9.5	351	5	5	5	5	Count Time: 915
12.5%	19.7		8.37		4.5	406	5	4	4	5	Count Signoff:
25%	19.7		9.37		9,5	529	5	5	5	5	Old WQ: Joy &
50%	19.7		9.31		4.5	900	4	5	5	Ч	
100%	19.7		4.27		8.2	1270	5	5	5	5	
Meter ID	55		0403		0012	E104					
Control	20.5		6.22		45	276	5	5	5	5	Date: 8/3/08
6.25%	20.5		8,34		86	373	5	5	5	5	Termination Time:
12.5%	20.5		35		4,5	293	5	4	4	5	Termination Signoff:
25%	20.5		5.391		4.4	556	5	5	5	5	Old WQ.7/
50%	20.5		1.41		9,4	454	4	5	5	4	
100%	20.5		8.44		4.3	1437	5	5	5	5	
Meter ID	47		PWG		0012	ELOI					;

Report Date:

04 Sep-08 17:06 (p 1 of 1)

Test Code:

14-4485-0920/29465

Acute Cerioda	phnia Survival 1	est								Paci	fic EcoRisk
Test Run No: Start Date: Ending Date: Duration:	14-6901-1984 31 Jul-08 12:30 04 Aug-08 10:45 94h	5 S	Fest Type: Protocol: Species: Source:	Survival (48h) EPA/821/R-02- Ceriodaphnia d In-House Cultu	lubia	-	D 8	-	John Jirasritumr Spring Water Not Applicable 1	ong	
	20-7133-6523 30 Jul-08 03:15 30 Jul-08 13:50 33h (5 °C)	1	Code: Material: Source: Station:	SJRDS-003 Ambient Water URS SJRDS			-	ilient: Project:	URS 13489		
Comparison S			NOEL	LOFI	TOEL	PMSD	TU	Meth	od		
<b>Analysis No</b> 01-5275-2879	Endpoint 48h Survival Ra	te	NOEL 100	>100 >100	N/A	5.0%	1		Many-One Rank	Test	<u> </u>
48h Survival F	Rate Summary				<del></del>						
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	11	0	0	0.0%	0.0%
48h Survival I	Rate Detail							-			
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Report Date: Test Code: 04 Sep-08 17:06 (p 1 of 2)

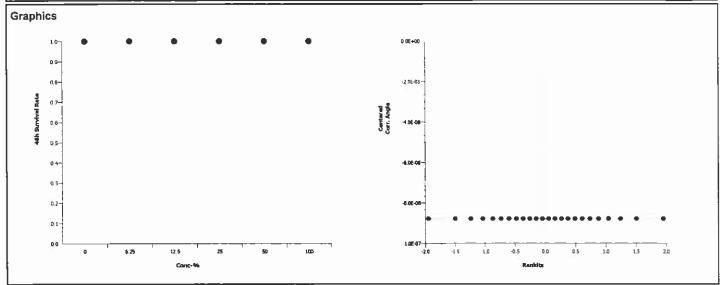
14-4485-0920/29465

ACOUST AGUIDAS	aphnia Survival	Test								Paci	fic EcoRi
Analysis No:	01-5275-2879	Enc	dpoint: 48h	Survival Ra	te		CETI	S Version:	CETISv1.	6.5	
Analyzed:	04 Sep-08 17:0	15 Ana	alysis: Non	parametric-(	Control vs T	reatments	Offic	ial Results:	Yes		
Data Transfor	rm	Zeta	Alt Hyp	Monte Car	1o	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	5.0%	
Steel Many-O	ne Rank Test						-				
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signit	ficant Effect			
	12.5		18	10	1	0.8330	Non-Signif	ficant Effect			
	25		18	10	1	0.8330	-	ficant Effect			
	50		18	10	1	0.8330	_	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	<b>a</b>			-							
Source	Sum Squa	ares	Mean Squ	are	DF	F Stat	P-Value	Decision(	<u> </u>		
Between	0		0		5	65500	0.0000	Significan	t Effect		
Error	0		0		18						
Total	0		0		23						
ANOVA Assu	ımptions						-	<b></b>			
Attribute	Test			Test Stat	Critical	P-Value	Decision(	1%)			
Variances	Mod Leve	ene Equalit	y of Variance	65500	4.25	0.0000	Unequal \	/ariances			
48h Survival	Rate Summary								_		
Conc-%	Control Type	Count									
		Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	Mean 1	95% LCL	95% UCL	Min 1	Max 1	Std Err 0	Std Dev	CV%	<b>Diff%</b>
_	Lab Water										
6.25	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25 12.5	Lab Water	4	1	1	1	1	1	0	0	0.0% 0.0%	0.0%
0 6.25 12.5 25 50	Lab Water	4 4 4	1 1	1 1 1	1 1 1	1 1 1	1 1 1	0 0 0	0 0 0	0.0% 0.0% 0.0%	0.0% 0.0% 0.0%
6.25 12.5 25	Lab Water	4 4 4 4	1 1 1	1 1 1	1 1 1	1 1 1 1	1 1 1 1	0 0 0	0 0 0	0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100	Lab Water	4 4 4 4 4	1 1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1 1	1 1 1 1	0 0 0 0	0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100		4 4 4 4 4	1 1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1 1	1 1 1 1	0 0 0 0	0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100 Angular (Cor	rrected) Transfor	4 4 4 4 4 4 7	1 1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	0 0 0 0 0	0 0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100 Angular (Cor Conc-%	rrected) Transfor Control Type	4 4 4 4 4 4 7 Tmed Sum Count	1 1 1 1 1 1 mary	1 1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	0 0 0 0 0 0	0 0 0 0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100 Angular (Cor Conc-%	rrected) Transfor Control Type	4 4 4 4 4 4 7med Surn Count	1 1 1 1 1 1 mary Mean 1.35	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 Std Err	0 0 0 0 0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100 Angular (Cor Conc-% 0 6.25 12.5	rrected) Transfor Control Type	4 4 4 4 4 4 7 Trmed Surn Count 4	1 1 1 1 1 1 1 mary Mean 1.35	1 1 1 1 1 1 1 1 1 95% LCL 1.35 1.35	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1.35	0 0 0 0 0 0 0 0 Std Err	0 0 0 0 0 0 0 0	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
6.25 12.5 25 50 100 Angular (Cor Conc-% 0 6.25	rrected) Transfor Control Type	4 4 4 4 4 4 7med Sum Count 4 4	1 1 1 1 1 1 mary Mean 1.35 1.35	1 1 1 1 1 1 1 95% LCL 1.35 1.35	1 1 1 1 1 1 1 1 95% UCL 1.35 1.35	1 1 1 1 1 1 1 1 1 1.35 1.35 1.35	1 1 1 1 1 1 1 1 1 1 1 1.35 1.35 1.35	0 0 0 0 0 0 0 Std Err	0 0 0 0 0 0 0 0 Std Dev	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%

Report Date: Test Code: 04 Sep-08 17:06 (p 2 of 2)

14-4485-0920/29465

Acute Cerioda	aphnia Survival Test			Pacific EcoRlsk
Analysis No: Analyzed:	01-5275-2879 04 Sep-08 17:05	 48h Survival Rate Nonparametric-Control vs Treatments	CETIS Version: Official Results:	



# 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:		URS: DMC		Test Date:	7/31/08
Test Material:	S	JRDS-003-TO	ζ	Control/Diluent:	Conditioned 80:20
Test ID#:	29465	Project #	13489	Control Water Batch:	Tanh HI
Randomization:	_				

Feeding To	Time:	8:30	Initials:	yĸ	-	Feeding	g T46∙hr	Time:	<u>0830</u>	Initials	<u>;                                    </u>
Treatment	Temp	p.	Н	D	.O.	Conductivity	i i	# Live	Animal	S	Sign-Off
i reaument	(°C)	New	Old	New	Old	(µS/cm)	Α	В	С	D	,
Control	19.8	8.31		7.8		283, (	5	5	5	5	Date: 7/31/08
6.25%	19.8	1.28		8.1		310	5	5	5	5	Sample ID: 20178
12.5%	19.8	8, 23		8.2		350	5	5	5	5	Test Solution Prep:
25%	19.8	8-14		8-3		139	5	5	5	5	New WQ: 4
50%	19.8	8.04		8.4		614	5	5	5	5	Initiation Time: 12-30
100%	198	7.86		8.6		361	5	5	5	5	Initiation Signoff:
Meter ID	45	PLOS		9010		8005					The region is a design of the second property
Control	19.8		7.92		7.4	276.8	5	5	5	5	Date: 8-1-08
6.25%	14.8		8.12		7.7	327	5	5	5	5	Count Time: 16:40
12.5%	19.8		8.19		7.7	351	5	5	5	5	Count Signoff:
25%	19.8		8.22		7.8	244	5	5	5	5	Old WQ:
50%	19.9		8.27	8.29	7.7	4498619	5	5-	5	5	
100%	19-8		8.31		7.6	976	5	5	5	5	######################################
Meter ID	55		phog		10012	Ec 64					**************************************
Control	20.5	გ.38	8,383	18.6	3.60	292	5	5	5	5	Date: 8/2/00
6.25%	20.5	8.33	8.29	8.6	94	320	5	5	5	5	Sample ID: 20178
12.5%	20.5	8.25	8.29	8,6	9.5	353	5	5	5	5	Test Solution Prep:
25%	20.5	8,06	8.17	8.5	9.6	438	5	5	5	5	New WQ: DAP
50%	20.5	8.04	8,10	8.5	8.5	595	5	5	5	5	Count Time: 1500
100%	20.5	7.84	6.20	8.8	8-6	924	3	5	3	5	Count Signoff:
Meter ID	47	PH03	0463	D013	Doin	EOU			Ĭ		Old WQ: June
Control	20.2	7 000	8.22	NOIF	8.3	285	5	5	5	_	Date: 8/3/08
6.25%	20.2				8.3	373	5	5	5	5	Count Time: 0930
12.5%	20.2		8.21		8.5	359				5	Count Signoff:
25%	20.2				8.5 Z3		5	5	5	5	Old WQ:
50%	20.2		8,24		8.4	447			5	5	52
100%	20.2		8.23		658 25L	614	5	5	5		·*************************************
Meter ID	47				D012	977	3	)	-	5	······································
Control	2012		PH03		8.4	325	5	5	5	-	Date: 8/4/08
6.25%	20.2		8.29		1		5	5	5	7	Termination Lime:
12.5%			8.30		8.5	353	5	2	1		Termination Time: Termination Signoff: Old WQ:
25%	20,7		9.30		8.6	386	5		5	5	Old WQ:
	20.2		7.30		8,5	503	2	7	7	7	5/
50%	30.7		8,26		8.4	684			5	5	nata a <u>elektrologo elekt</u> a elektrologi el
100%	20.7		8.33		8.5	1079	_2	2	5	2	M. 175-5-16-16-16-16-16-16-16-16-16-16-16-16-16-
Meter ID	47		pH 03		DO 12	Ec01					

Report Date:

04 Sep-08 17:54 (p 1 of 1)

Test Code:

21-2657-0843/29466

Acute Cerioda	phnia Survival	Test								Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	00-1834-6432 01 Aug-08 15:5 05 Aug-08 14:0 94h	0 F	Test Type: Protocol: Species: Source:	Survival (48h) EPA/821/R-02- Ceriodaphnia d In-House Cultu	ubia		Di Br	luent: Sj	ohn Jirasritum oring Water ot Applicable	rong	
	18-1077-8026 31 Jul-08 09:10 31 Jul-08 12:04 31h (15.6 °C)	N S	Code: Vaterial: Source: Station:	SJRDS-004 Ambient Water URS SJRDS					RS 3489		
Comparison S	Summary		-								
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Method			
09-6668-6690	48h Survival Ra	ite	100	>100	N/A	5.0%	1	Steel M	any-One Rank	Test	
48h Survival F	Rate Summary				<u> </u>	_			<u> </u>		
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
48h Survival I	Rate Detail										
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1					-	
6.25		1	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Report Date:

04 Sep-08 17:54 (p 1 of 2)

Test Code:

21-2657-0843/29466

Acute Ceriod	aphnia Survival	Test								Paci	fic EcoRi
 Analysis No:	09-6668-6690	Enr	dnoint: 48h	Survival Ra	te		CETI	S Version:	CETISv1.	6.5	
Analyzed:	=		•	parametric-		reatments		ial Results:			
Allalyzea.		74 7411		parametrio				iai ittosuita.			
- Data Transfo	Transform   Zeta   Alt Hyp     Iar (Corrected)   C > T     Many-One Rank Test     rol		Monte Car	10	NOEL	LOEL	TOEL	TU	PMSD		
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	5.0%	
Steel Many-C	ne Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330		ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	9										
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0		0		5	65500	0.0000	Significant	Effect		
Error	0		0		18						
Total	0		0		23						
ANOVA Assu	mptions				·				-	* -	
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance	65500	4.25	0.0000	Unequal \	/ariances			
48h Survival	Rate Summary							·			-
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		-	•	1	1	1	1	0	0	0.0%	0.0%
100		· ·	•	1	1	1	1	0	0	0.0%	0.0%
Angular (Co	rected) Transfo	rmed Sum	marv								
Conc-%				95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0				1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25	LUD FIELDI	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
		•								<del>-</del>	
25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
50		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
100		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%

Report Date: Test Code: 04 Sep-08 17:54 (p 2 of 2) 21-2657-0843/29466

Pacific EcoRisk Acute Ceriodaphnia Survival Test CETISv1.6.5 Endpoint: 48h Survival Rate **CETIS Version:** Analysis No: 09-6668-6690 04 Sep-08 17:54 Analysis: Nonparametric-Control vs Treatments Official Results: Yes Analyzed: Graphics 09 2.0E-08-0.6--6.0E-08 0 2-0.1-0.0 -1.0 15 0.0

# 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:	ι	IRS: DMC		Test Date:	8 1 /2008
Test Material:	SJI	RDS-004-TO	X	Control/Diluent:	Conditioned 80:20
Test ID#:	29466	Project #	13489	Control Water Batch:	Tank #3
Randomization:	board 2	_		·	-
Feeding T0	Time: 0830	Initials:	YŁ	Feeding T46-hr Time:	8:00 Initials TPW

Treatment	Temp	p)	Н	D.	.O.	Conductivity	i	# Live A	Animals	5	Sign-Off
Treatment	(°C)	New	Old	New	Old	(µS/cm)	Α	В	С	D	_
Control	20.1	8.05		8.5		266	5	5	5	5	Date: 9   i   2008
6.25%	201	8.11		8.6		307	5	5	5	5	Sample ID: 20 (45
12.5%	20,1	8.07		8.8		353	5	5	5	5	Test Solution Prep:
25%	20-1	8.03		8.7		438	5	5	5_	5	New WQ:
50%	20.1	7.96		8-6		624	5	5	5	5	Initiation Time:
100%	20,(	7-82		8.5		967	5	5	5	5	Initiation Signoff:
Meter ID	47	pH 03		0014		ecol					
Control	2न ।		4.7.3		9.1	303	6	5	5	5	Count Time: 1430
6.25%	201		9.23		9,0	291	5	5	5	5	17.50
12.5%	20.1		9.71		8.6	337	5	S	5	5	Count Signoff:
25%	20.1		4.17		8.7	432	5	5	5	5	Old WQ:
50%	J01		4.15		4.7	617	5	B	6	5	
100%	20.1		5.11		4.5	966	S	5	5	5	
Meter ID	55		12/103		nol2	ELBU					
Control	20-3	8.30	4,67	8-8	9.4	261	5	5	5	5	Date: /3/2008
6.25%	20.3	8.30	7,18	8.0	8.3	310	5	5	5	5	Sample ID: 195
12.5%	20.3	8.22	4.02	8.2	8.2	351	5	5	5	5	Test Solution Prep:
25%	20.3	8.20	8.08	8-2	4.4	448	5	5	5	5	New WO: EV 100
50%	20.3	7-98	4.08	8.6	8.4	622	5	5	5	5	Count Time:
100%	20.3	7-92	40:09	8:7	8.3	965	5	5	5	5	Count Signoff: a0
Meter ID	47	0403	0461	DOIL	2010	0404					Old WQ: WYR
Control	20.Z		8-28		9.2	HTTD 2-16	s-	5-	5-	5	Date: 8/4/08
6.25%	20.2		8.30		8.9	A262-327	5	5	5-	5	Count Time: 09:30
12.5%	20.2		8.32		8.8	470 9 362	5-	5-	5	5	Count Signoff:
25%	20.7		8.30		8.8	-659469	5-	سی	ح	5	Old WQ: HTA
50%	202		8-28		8.8	659	5-	حی	5	سی	
100%	20.2		8.28		8.7	1046	5	حی	5-	3-	
Meter ID	55		PH09		P010	ecos					
Control	20.4		8.48		8.6	297	5	5	2	5	Date: \$15108
6.25%	20,4		8.56		3.5	350	5	5	5	5	Termination Time:
12.5%	26.4		8:54		3.6	421	5	5	5	5	Termination Signoff:
25%	20,4		851		816	520	5	2	5	5	Termination Time: Termination Signoff: Old WQ:
50%	2014		850		8.6	695	5	5	2	5	and the state of t
100%	20.4	الثلب	847		8.6	1093	5	5	5	5	
Meter ID	47		2409		Do13						

# **Appendix D**

Test Data and Summary of Statistics for the Evaluation of the Acute Toxicity of the San Joaquin River Recirculation Study Ambient Waters to Fathead Minnows

# **CETIS Summary Report**

Report Date:

04 Sep-08 17:33 (p 1 of 1)

Test Code:

12-3993-9766/29468

								est Code:	·		12-000	3-9/66/2946
Acute Fish Su	urvival Test										Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	13-3820-0563 30 Jul-08 15:50 03 Aug-08 15:1 95h	0 10	Test Type: Protocol: Species: Source:	Survival (96h) EPA/821/R-02 Pimephales pr Aquatic Biosys	omelas		D B	nalyst: liluent: Irine: ge:	Labora	lirasritum atory Wat oplicable	•	
•	09-1745-9873 29 Jul-08 06:40 : 01 Jul-08 11:50 33h (12 °C)	) )	Code: Material: Source: Station:	NWDS-001 Ambient Wate URS NWDS	r			lient: roject:	URS 13489			<del></del>
Comparison S	Summary		_								<u></u>	<del></del> -
Analysis No 12-1770-2851	Endpoint 96h Survival R	ate	NOEL 100	. LOEL >100	TOEL N/A	PMSD 7.43%	TU 1	Meth		One Rank	Test	
Point Estimat	e Summary					<del></del>						
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meti	hod			
03-2186-2339 96h Survival I	96h Survival R	ate	EC2.5 EC10 EC15 EC20 EC25 EC40 EC50	31.2 274 601 1120 1920	17.9 73.9 123 185 263 635 1080	193 19800 106000 400000 1250000 22200000 125000000	3.2 0.365 0.166 0.0891 0.0522 0.0135	Line		ession (M	LE)	
Conc-%	Control Type	Count	. Mean	95% LCL	95% UCL	Min	Max	Std	Err S	Std Dev	CV%	Diff%
0 6.25 12.5 25 50 100	Lab Water	4 4 4 4 4	0.975 1 1 0.975 0.95 0.975	0.956 1 1 0.956 0.928 0.956	0.994 1 1 0.994 0.972 0.994	0.9 1 1 0.9 0.9 0.9	1 1 1 1 1	0.000 0 0 0.000 0.010	913 ( 05 (	0.05 0 0.05 0.05 0.0577	5.13% 0.0% 0.0% 5.13% 6.08% 5.13%	0.0% -2.56% -2.56% 0.0% 2.56% 0.0%
96h Survival F	Rate Detail											0.070
Conc-% 0 6.25 12.5 25 50	Control Type Lab Water	Rep 1 1 1 1 1 0.9	Rep 2  1  1  1  1  0.9	Rep 3 0.9 1 0.9 1 0.9 1 0.9	Rep 4  1  1  1  1  1  1  1	_						

04 Sep-08 17:33 (p 1 of 2)

CETIS AII	alytical Rep	ort					•	ort Date.	04 4	-	33 (P 1 01 Z
							l est	Code:	_	12-3993	9766/2946
Acute Fish S	urvival Test		_							Paci	fic EcoRisk
Analysis No:	12-1770-2851	En	dpoint: 96h	Survival Ra	ate		CET	IS Version:	CETISv1	.6.5	
Analyzed:	04 Sep-08 17:	33 An	alysis: Nor	parametric-	-Control vs 1	Treatments	Offic	ial Results:	Yes		
Data Transfo	rm	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	7.43%	
Steel Many-O	ne Rank Test				<del></del>						
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision	(5%)			
Lab Water	6.25		20	10	1	0.9520	Non-Signi	ficant Effect			
	12.5		20	10	1	0.9520	_	ificant Effect			
	25		18	10	2	0.8330	_	ificant Effect			
	50		16	10	2	0.6100	-	ficant Effect			
	100		18	10	2	0.8330	_	ificant Effect			
ANOVA Table	<del></del>					<del></del>	<del></del>		_		
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0.018812		0.0037625		5	0.785	0.5740		icant Effect		
Error	0.086317		0.0047954		18	0.100	0.07 40	rton-oigini	IOMIN LINCOL		
Total	0.105130		0.0085580		23						
ANOVA Assu	mptions										
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance		4.25	0.3790	Equal Var	<del></del>			
Distribution		Wilk Norma	-	0.824	1,20	0.0007	-	al Distributio	n		
96h Survival	Rate Summary						<u> </u>				
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	-2.56%
12.5		4	1	1	1	1	1	0	0	0.0%	-2.56%
25		4	0.975	0.956	0.994	0.9	1				
50		4						0.00928	0.05	5.13%	0.0%
100			0.95	0.928	0.972	0.9	1	0.0107	0.0577	6.08%	2.56%
100		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	0.0%
Angular (Cor	rected) Transfor	med Sum	mary								-
Conc-%	Control Type	Count	Mean	95% LCL			Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	0.0%
6.25		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-2.97%
12.5		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-2.97%
25		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	0.0%
50		4	1.33	1.29	1.37	1.25	1.41	0.0175	0.0941	7.07%	2.97%
100		4	1.37	1.34	1.4	1.25	1.41	0.0173	0.0815	5.94%	
					1.7	1.20	1,71	0.0101	0.0010	J.5476 —	0.0%

0.1-

6.25

Report Date: Test Code:

0 5

1.0

1.5

04 Sep-08 17:33 (p 2 of 2)

12-3993-9766/29468

**Acute Fish Survival Test** Pacific EcoRisk Analysis No: 12-1770-2851 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5 Analyzed: 04 Sep-08 17:33 Analysis: Nonparametric-Control vs Treatments Official Results: Yes Graphics 0.10 0.05-0.00 -0.05 0.3-0.2-

04 Sep-08 17:33 (p 1 of 2)

Test Code:

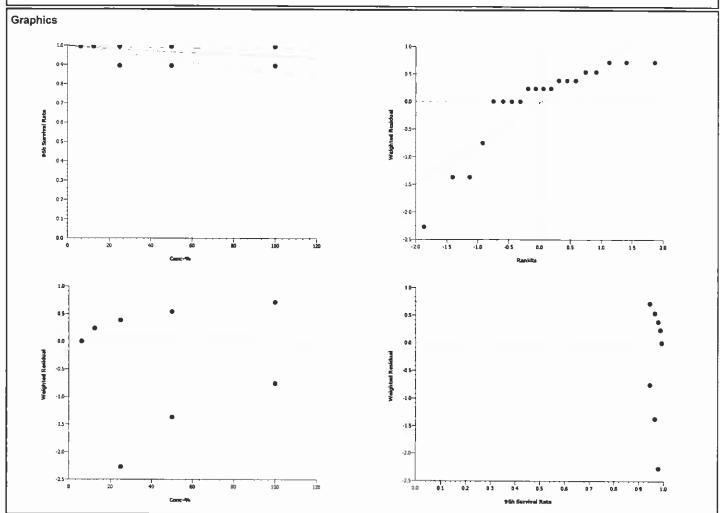
12-3993-9766/29468

Acute Fleh S											
Acute i isit o	Survival Test									Pa	cific EcoR
Analysis No:	: 03-2186-2339	End	point: 96h	Survival Ra	ite		CETI	S Version:	CETISv1	.6.5	
Analyzed:	04 Sep-08 17:	33 Anal	ysis: Line	ear Regress	ion (MLE)		Offic	ial Results:	Yes		
Linear Regre	ession Options										
Model Funct	•		Threshold	l Ontion	Threshold	Ontimized	Pooled	Het Corr	Woighton	4	
	NED=A+B*log(X)	1	Control Th		0.025	Yes	No	No	Weighted Yes		
		1									
Regression S	Summary										
Iters LL	AICc	Mu	Sigma	G Stat	Chi-Sq	Critical	P-Value	Decision(5	5%)		
37 -23.9	.9 52.5	2.73 	1.39 	0.282	12.3	28.9	0.8330	Non-Signifi	icant Heter	ogeneity	
— Point Estima	ates										
Level Con	nc-% 95% LCL	95% UCL		TU	95% LCL	95% UCL					
EC2.5 31.2	2 17.9	193		3.2	0.518	5.59					
EC10 274	73.9	19800		0.365	0.00504	1.35					
EC15 601	123	106000		0.166	0.000946	0.81					
EC20 1120	0 185	400000		0.0891	0.00025	0.539					
EC25 1920	0 263	1250000		0.0522	0.0000799	0.38					
EC40 7380	0 635	22200000		0.0135	4.51E-06	0.158					
EC50 1660	1080	125000000	)	0.00602	0.0000008	0.0927					
Regression I	Parameters ====================================						•				
Parameter	F-45										
raiailletei	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(	5%)			
	0.719	0.195	95% LCL 0.337	95% UCL 1.1	t Stat 3.69	P-Value 0.0017	Decision( Significant				
Slope							Significant	5%) Parameter Parameter			
Slope Intercept	0.719 1.97	0.195	0.337	1.1	3.69	0.0017	Significant	Parameter	_		
Slope Intercept Residual Ana	0.719 1.97 alysis	0.195	0.337	1.1 2.27	3.69 12.7	0.0017 0.0000	Significant Significant	Parameter Parameter	-		
Slope Intercept Residual Ana Attribute	0.719 1.97 alysis Method	0.195 0.155	0.337 1.66	1.1 2.27 Test Stat	3.69 12.7 Critical	0.0017 0.0000 P-Value	Significant Significant Decision(	Parameter Parameter 5%)			
Slope Intercept Residual Ana Attribute Variances	0.719 1.97 alysis Method Mod Leve	0.195 0.155	0.337 1.66	1.1 2.27 Test Stat 1.52	3.69 12.7	0.0017 0.0000 P-Value 0.2470	Significant Significant Decision( Equal Vari	Parameter Parameter 5%) ances			
Slope Intercept Residual Ana Attribute Variances Distribution	0.719 1.97 alysis Method Mod Leve Shapiro-V	0.195 0.155	0.337 1.66	1.1 2.27 Test Stat	3.69 12.7 Critical 3.06	0.0017 0.0000 P-Value 0.2470 0.0005	Significant Significant Decision( Equal Vari	Parameter Parameter 5%)	n		
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival	0.719 1.97  alysis  Method  Mod Leve Shapiro-V	0.195 0.155 ene Equality o	0.337 1.66 of Variance	1.1 2.27 Test Stat 1.52 0.782	3.69 12.7 Critical 3.06	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate	Significant Significant  Decision( Equal Vari Non-norm:	Parameter Parameter  5%) ances al Distribution	_		
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-%	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary  Control Type	0.195 0.155 ene Equality of Vilk Normality	0.337 1.66 of Variance	1.1 2.27 Test Stat 1.52 0.782	3.69 12.7 Critical 3.06 Calcul Max	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate	Significant Significant Decision( Equal Vari Non-norms	Parameter Parameter  5%) ances al Distribution	DIff%	A 20	B
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0	0.719 1.97  alysis  Method  Mod Leve Shapiro-V	0.195 0.155 ene Equality of Vilk Normality Count	0.337 1.66 of Variance / Mean 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9	3.69 12.7 Critical 3.06 Calcul Max	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913	Significant Significant Decision( Equal Vari Non-norm: e(A/B) Std Dev 0.05	Parameter Parameter  5%) ances al Distribution  CV%  5.13%	DIff% 0.0%	39	40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary  Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4	0.337 1.66 of Variance / Mean 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1	3.69 12.7 Critical 3.06 Calcul Max 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913	Significant Significant Decision( Equal Vari Non-norms e(A/B) Std Dev 0.05 0	5%) ances al Distribution  CV% 5.13% 0.0%	DIff% 0.0% -2.56%	39 40	40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary  Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4	0.337 1.66 of Variance / Mean 0.975 1	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1	3.69 12.7 Critical 3.06 Calcul Max 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0	Significant Significant Decision( Equal Vari Non-norms e(A/B) Std Dev 0.05 0 0	5%) ances al Distribution  CV% 5.13% 0.0% 0.0%	DIff% 0.0% -2.56% -2.56%	39 40 40	40 40 40
Slope Intercept  Residual Ana Attribute Variances Distribution  96h Survival Conc-%  0  6.25 12.5	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary  Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4	0.337 1.66 of Variance / Mean 0.975 1 1 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913	Significant Significant Significant Decision( Equal Vari Non-norms  B(A/B) Std Dev  0.05 0 0 0.05	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13%	DIff% 0.0% -2.56% -2.56% 0.0%	39 40 40 39	40 40 40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5 25	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary  Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4	0.337 1.66 of Variance / Mean 0.975 1	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5 25 50 100	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary  Control Type  Lab Water	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4 4	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.95	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913	Significant Significant Significant Decision( Equal Vari Non-norms  B(A/B) Std Dev  0.05 0 0 0.05	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13%	DIff% 0.0% -2.56% -2.56% 0.0%	39 40 40 39	40 40 40 40
Slope Intercept  Residual Ana Attribute Variances Distribution  96h Survival  Conc-%  0  6.25  12.5  25  50  100  96h Survival	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary Control Type Lab Water	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4 4	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.95 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5 25 50 100 96h Survival Conc-%	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary Control Type Lab Water  I Rate Detail Control Type	0.195 0.155 ene Equality of Vilk Normality  Count 4 4 4 4 4 4 4 Rep 1	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.95	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5 25 50 100 96h Survival Conc-% 0	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary Control Type Lab Water	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4 4 4 4 4	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.975 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1 1 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5 25 50 100 96h Survival Conc-% 0 6.25	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary Control Type Lab Water  I Rate Detail Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4 4 4 4 7	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.975 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40
Slope Intercept Residual Ana Attribute Variances Distribution 96h Survival Conc-% 0 6.25 12.5 50 100 96h Survival Conc-% 0 6.25 12.5	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary Control Type Lab Water  I Rate Detail Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4 4 4 4 1 1	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.975 0.975 Rep 2 1 1	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1 1 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40
Slope Intercept  Residual Ana Attribute Variances Distribution  96h Survival Conc-%  0 6.25 12.5 25 50 100  96h Survival Conc-%	0.719 1.97  alysis  Method  Mod Leve Shapiro-V  I Rate Summary Control Type Lab Water  I Rate Detail Control Type	0.195 0.155 ene Equality of Vilk Normality Count 4 4 4 4 4 4 4 7	0.337 1.66 of Variance / Mean 0.975 1 1 0.975 0.975 0.975	1.1 2.27 Test Stat 1.52 0.782 Min 0.9 1 1 0.9 0.9 0.9 0.9	3.69 12.7 Critical 3.06 Calcul Max 1 1 1 1 1 1 1 1 1	0.0017 0.0000 P-Value 0.2470 0.0005 ated Variate Std Err 0.00913 0 0 0.00913 0.0105	Decision( Equal Vari Non-norma e(A/B) Std Dev 0.05 0 0.05 0.05 0.0577	Parameter Parameter  5%) ances al Distribution  5.13% 0.0% 0.0% 5.13% 6.08%	DIff% 0.0% -2.56% -2.56% 0.0% 2.56%	39 40 40 39 38	40 40 40 40 40

Report Date: Test Code: 04 Sep-08 17:33 (p 2 of 2) 12-3993-9766/29468

Acute Fish Survival Test

Analysis No: 03-2186-2339 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:33 Analysis: Linear Regression (MLE) Official Results: Yes



# 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #: 4034 Age: 9 days
Test Material:	NWDS 001-TOX	Organism Supplier: ABS
Test ID#:	29468 Project # 13489	Control/Diluent: EPAMH
Test Date:	7/30/08 Randomization: 4.6.5	Control Water Batch: (124
Feeding To	Time: 08 to Initials: JPW	Feeding T46-hr Time: 2845 Initials JPU

Treatment	Temp		H	D.O.	(mg/L)	Conductiv	ity (µS/cm)		# Live C	rganisms		PIGNLOFF
Tremment	(°C)	new	old	new	old	new	old	Rep A	Rep B	Rep C	Rep D	SIGN-OFF
Control	20 2	8.22	X41	1.3		319		10	10	10	10	Date: 713 108
6.25%	20.2	8 14		8.3		384		10	10	10	10	Sample ID: Test Solution Prep: New We:
12.5%	20 2	8.12		8.5		453		10	10	10	10	Test Solution Prep:
25%	70.2	8 07		8.6		599		10	10	10	10	
50%	20.2	8.01		8.9		890		10	10	10	10	Initiation Time: 1550
100%	20.2	7.94		J.8		1430		10	10	10	10	Initiation Sign-off: JPC
Meter ID:	47	pHo3		DOIT		Ecas						
Control	19.7	1	2773	7.	9.9		303	10	10	10	10	Date: 7/31/08
6.25%	19.7		8:02		9.9		389	10	10	10	10	Count Time.
12.5%	197		8.14		9.7		465	10	10	10	10	Count Signoll:
25%	19-7		8.27		99		602	10	10	10	10	Old WO: 5'L
50%	19.7		8.44		9.8		880	10	9	10	10	
100%	9.7		8,53		9.2		1398	10	10	10	10	
Meter ID:	55		PH 11	2 d	0012	28.2	6(04		, ,		10	
Control	201	8.21	7.90	2,88	830	301	308	10	16	10	١	Date: 4/)/06
6.25%	20-1	8.23	8.01	8.9	2	390	391	10	10	10	10	Sample ID: 20 70
12.5%	20.1	8 13	8-15	8.8	8.1	425	465	10	10	+0	10	Test Solution Prep:
25%	20.1	8.25	8.26	8.9	8-0	582	608	10		10		New WQ: 10
50%	20.1	8.27	8.44	8.9	8.0	866	901	10	10	10	10	Renewal Time:
100%	20.1	8.25	8-65	9.0	8.0	1429	1435	10	10	10		Renewal Signall: JPC
Meter ID:	47	0409	PHOT	0010	_	EUS	EC05	10	10	10	10	Old WQ ASR.
Control	20.0	Ano 1	7-44	1010	9.2	2007	314	to	10	9	10	Date: 8/02/08
6.25%	20.0		7.99		84		767	10	10	10	10	Count Time: 0957
12.5%	200		1.05		41		446	10	10	10		Commence and the state of the s
25%			4.17		4.5	<del></del>	498	10	10	10	10	Old WQ:
50%	20.0		4,50		41		455	10	9	10	10	WILL
100%			445		42		HOT			10	10	· · · · · · · · · · · · · · · · · · ·
Meter ID:	20.0		0403		DetZ			10	10	10	10	
Control	20.5						ECH	10	10	0	100	Date: - ) - /
6.25%	20.5		8.01		8.2		311	10	10	10	10	Date: 8/3/08 Termination Time: /5/0
12.5%	20.5		4.00		8.3		391	[0	10		10	Termination Signoff: RV
25%	20.5		8,09		8.2		438	מו	10	0	10	
50%	5.00.000		8.22		8.2		574	מו	lo.	9	10	old weg: 5L
	20.5		8.39		8.1		863	9	9	10	16	
100%	205		8.57		8.2		1428	10	10	9	10	
Meter ID:	47		PHO3		D012		€CO9					

04 Sep-08 17:20 (p 1 of 1) 04-1968-0609/29469

Test Code:

								rest code.		04-130	0-0009/294
Acute Fish S	urvival Test									Pac	ific EcoRi
Test Run No: Start Date: Ending Date: Duration:	18-5666-3789 30 Jul-08 18:19 03 Aug-08 16:2 94h	5 25	Test Type: Protocol: Species: Source:	Survival (96h) EPA/821/R-02- Pimephales pro Aquatic Biosys	omelas			Analyst: Diluent: Brine: Age:	John Jirasritum Laboratory Wa Not Applicable 9	-	
•	07-7753-2107 29 Jul-08 21:52 30 Jul-08 13:50 20h (5°C)	2	Code: Material: Source: Station:	NWDS-002 Ambient Water URS NWDS				Client: Project:	URS 13489		
Comparison	Summary		_	<del></del>					<u> </u>		<del>-</del>
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	od		
04-5071-5418	96h Survival Ra	ate	100	>100	N/A	5.6%	1	Steel	Many-One Ran	k Test	
Point Estimat	te Summary		<del></del> -								
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	od		
03-5238-7928	96h Survival Ra	ate	EC2.5	5.58	N/A	N/A	17.9	Linea	r Regression (M	LE)	-
			EC10	0.643	N/A	N/A	155		,	•	
			EC15	0.295	N/A	N/A	339				
			EC20	0.159	N/A	N/A	631				
			EC25	0.0931	N/A	N/A	1070				
			EC40	0.0244	N/A	N/A	4100				
			EC50	0.0109	N/A	N/A	9200				
96h Survival	Rate Summary							<u> </u>			<del></del> -
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.009	13 0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.975	0.956	0.994	0.9	1	0.009	13 0.05	5.13%	2.5%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
96h Survival I	Rate Detail										
Conc-%	Control Type	Rep 1	Rep 2	Rep <b>3</b>	Rep 4						
D	Lab Water	1	1	1	1						
5.25		1	0.9	1	1						
12.5		1	1	1	1						
25		1	1	1	0.9						
50		1	1	1	1						
100		1	1	1	1						

04 Sep-08 17:20 (p 1 of 2)

							Test	Code:		04-1968	-0609/2946
Acute Fish S	urvival Test				_		_			Paci	fic EcoRisi
Analysis No: Analyzed:	04-5071-5418 04 Sep-08 17:		•	Survival Ra	ate -Control vs 1	realments		IS Version: cial Results:	CETISv1 Yes	.6.5	
Data Transfo	m	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	5.6%	-
Steel Many-O	ne Rank Test				-		-				
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision	(5%)			
Lab Water	6.25		16	10	1	0.6100	Non-Sign	ificant Effect			
	12.5		18	10	1	0.8330	Non-Sign	ificant Effect			
	25		16	10	1	0.6100	_	ificant Effect			
	50		18	10	1	0.8330	_	ificant Effect			
	100		18	10	1	0.8330		ificant Effect			
ANOVA Table	<del>)</del>				-	<u> </u>					
Source	Sum Squ	ares	Mean Squ	iare	DF	F Stat	P-Value	Decision(	5%)		
Between	0.008853	11	0.0017706	22	5	0.8	0.5640	Non-Signif	icant Effect	t	
Error	0.039839		0.0022132	78	18			Ŭ			
Total	0.048692	1062693	0.0039838	9971815	23						
ANOVA Assu	mptions					. <u>-</u>					
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equali	ty of Variance	0.8	4.25	0.5640	Equal Vai	riances			
Distribution	Shapiro-	Wilk Norm	ality	0.615		0.0000	Non-norm	nal Distributio	n		
96h Survival	Rate Summary	-					-				
Сопс-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	DIff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
Angular (Cor	rected) Transfor	med Sun	ımary								
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
6.25		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
12.5		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
25		4	1,37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
50		4	1,41	1,41	1.41	1.41	1.41	0.0131	0.0615	0.0%	
			1,-71	1,	1.71	1.71	1.70	0	J	0.076	0.0%

0.0%

0.0%

100

1.41

1.41

1.41

1.41

1.41

0

0

Report Date: **Test Code:** 

04 Sep-08 17:20 (p 2 of 2)

04-1968-0609/29469

**Acute Fish Survival Test** Pacific EcoRisk Analysis No: 04-5071-5418 Endpoint: 96h Survival Rate CETIS Version: **CETISV1.6.5** Analyzed: 04 Sep-08 17:19 Analysis: Nonparametric-Control vs Treatments Official Results: Yes Graphics 0.05 0,8-0.7-Corr. Angle -0.05 0.3 0.2-0.0 6.25 1.5 -1.0 1.0

Report Date: Test Code: 04 Sep-08 17:20 (p 1 of 2)

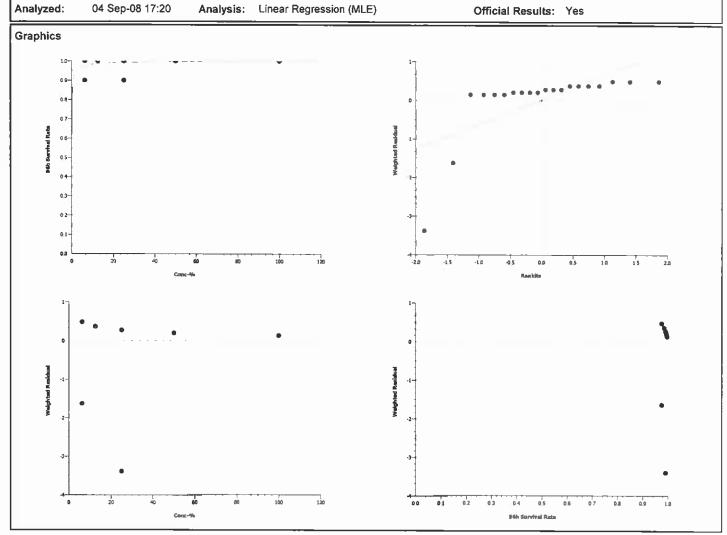
04-1968-0609/29469

		_						1650	Code.		04-190	00-0009/29
Acute I	ish Survi	val Test									Pa	cific EcoR
Analysi	is No: 03	3-5238-7928	En	dpoint: 961	n Survival R	ate		CET	IS Version:	: CETIS	v1.6.5	
Anaiyz	e <b>d:</b> 04	Sep-08 17:2	20 Ап	alysis: Lin	ear Regress	ion (MLE)			ial Results			
inear	Pagrassia	n Options								<del>-</del>	<del></del>	
	Regression Function	пориона		Throchol	d Ontion	Therebold	Outimina	d Danied	U-4 O	VII. 1.		
		=A+B*log(X)]		Threshole Control Th			Optimized		Het Corr		ed	
				Control 11		0	Yes	No	No	Yes		
Regres	sion Sum	•										
Iters	LL	AICc	Mu	Sigma	G Stat	Chi-Sq	Critical	P-Value	Decision			
7	-10.6	26	-4.95	-1.38 	3.99	15.8	28.9	0.6060	Non-Sign	ificant Het	erogeneity	
Point E	stimates						<del></del>					
Level	Conc-%	95% LCL	95% UC	<u>L</u>	TU	95% LCL	95% UCL					
EC2.5	5.58	N/A	N/A		17.9	N/A	N/A					
EC10	0.643	N/A	N/A		155	N/A	N/A					
EC15	0.295	N/A	N/A		339	N/A	N/A					
EC20	0.159	N/A	N/A		631	N/A	N/A					
EC25	0.0931	N/A	N/A		1070	N/A	N/A					
EC40	0.0244	N/A	N/A		4100	N/A	N/A					
EC50	0.0109	N/A	N/A		9200	N/A	N/A					
Regres	sion Para	meters	_	- <del></del>	<u></u>	<del>-</del>		<del>.</del>				
arame		Estimate	Std Erro	r 95% LCL	95% UCL	t Stat	P-Value	Decision	(5%)			
Slope		-0.723	0.737	-2.17	0.721	-0.982	0.3390		ficant Parai	meter		
interce	ot	3.58	0.89	1.84	5.32	4.02	0.0008		t Paramete			
Residu	al Analysi	<u> </u>										
Attribu	_	Method			Tool Stat	Critical	D Value	Doninio-	(E0/)			
Varianc		-	ne Equalib	of Variance	7est Stat 0.784		P-Value	Decision				
Distribu			/ilk Norma		0.764	3.06	0.5530 0.0000	Equal Var				
			THO PINE				0.0000	mon-nom	al Distributi	on		
		Summary					lated Variat	<del>`                                    </del>			_	
Conc-%		rol Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	A	B
)	Lab '	Water	4	1	1	1	0	0	0.0%	0.0%	40	40
3.25			4	0.975	0.9	1	0.00913	0.05	5.13%	2.5%	39	40
2.5 25			4	1	1	1	0	0	0.0%	0.0%	40	40
25 50			4	0.975	0.9	1	0.00913	0.05	5.13%	2.5%	39	40
100			4	1	1	1	0	0	0.0%	0.0%	40	40
		D 4 "				1	0	0	0.0%	0.0%	40 ———	40
	rvival Rate				_	_						
Conc-%		rol Type Vater	Rep 1	Rep 2	Rep 3	Rep 4						
-	Lap :	ANGE	4	•	1	1						
6.25			1	0.9	1	1						
12.5			1	1	1	1						
25			1	1	1	0.9						
50			1	1	1	1						
100			1	1	1	1						

Report Date: Test Code: 04 Sep-08 17:20 (p 2 of 2) 04-1968-0609/29469

Acute Fish Survival Test

Analysis No: 03-5238-7928 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5



### 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #:	634	Age: 9days
Test Material:	NWDS-002-TOX	Organism Supplier:	ABS	A (35
Test ID#:	29469 Project # 13489	Control/Diluent: EP	РАМН	
Test Date:	Randomization: 4-6-8	Control Water Batch:	1124	H=4PV
Feeding To	Time: 800 Initials: 3 PW	Feeding T46-hr T	Time: 0845	Initials ) Si

Treatment	Temp	р	H	D.O. (	mg/L)	Conductiv	ity (µS/cm)		# Live C	rganisms		CIGNLOTE.
reatment	(°C)	new	old	new	old	new	old	Rep A	Rep B	Rep C	Rep D	SIGN-OFF
Control	20.2	8.00		8.0		296		10	10	10	10	Date: 7/30/08
6.25%	20.2	7.97		7.5		380		10	10	10	10	Sample ID: 0179
12.5%	20.2	7.93		7.2		433		10	10	10	10	Test Solution Prep:
25%	20.2	7.87		7.7		557		10	10	10	10	New WQ: RV
50%	20.2	7.79		7.5		795		10	10	10	10	Initiation Time: 1815
100%	20.2	7.64		7.5		1276		10	10	10	10	Initiation Sign-olf: JPC/W
Meter ID:	47	Phi		DO1 2		604						
Control	19.7		8.00		8.8		224	10	10	10	10	Date: 7/31/08
6.25%	19.7		1.87		970	7	413	10	10	10	10	Count Time; 84 5
12.5%	19.7		8.12		8.8		553	10	10	10	10	Count Signoff:
25%	19.7		8.21		8.5		577	10	10	10	10	Old WQ:
50%	19.7		8,27		910		816	10	10	/0	10	recommendation in the second
100%	19.7		8.36		8.8		1313	10	10	10	10	
Meter ID:	55		PH II		DOIZ		ECOA					
Control	20.3	8,15	7.75	83	7.6	302	306	18	10	70	10	Date: 8/1/08
6.25%	20.3	8.16	7.32	8,5	7.6	359	393	10	9	10	10	Sample ID: "20179
12.5%	20.3	8.11	7.94	8.7	7.6	417	449	10	10	10	10	Test Solution Prep: (1)
25%	20.3	8.07	801	8.8	7.7	547	530	10	10	10	10	New WQ: Y 2
50%	20-3	8.0	8.15	8.7	7.6	813	814	10	10	10	10	Renewal Time:
100%	20.3	8.21	8.36	9.0	7.5	1324	1430	16	10	10	10	Renewal Signoil:
Meter ID:	47	04-09		000		FLOS						Old WO PATCH
Control	20.0		7.47		44		370	w	10	10	W	Date: 8 lozlo8
6.25%	200		7.92		g.U		361	10	9	10	10	Count Time: 1005
12.5%	20.0		7.43		4.5		41.9	10	10	10	10	Count Signolf:
25%	20.0		4.05		4.1		SUL	10	10	lo	10	Old WQ: MY
50%	20.0		4.17		2.7		401	10	10	10	10	
100%	20.0		6.20		4.3		1307	10	10	10	10	
Meter ID:	47		1463		0012		264	100				
Control	205		7.94		6.7		300	10	10	10	10	Date: 8/3/08
6.25%	20.5		504		6.2		36%	10	9	10	10	Termination Time:
12.5%	20.5		8.06		8,3		419	10	10	10	10	Termination Signoff:
25%	20.5		8.14		8,4		563	10	10	10	9	Old WQ: M
50%	20,5		829		3,3		819	10	10	10	10	7.00
100%	20.5		8.46		8.1		1343	10	10	10	10	
Meter ID:	47		PHOP		Po12		Eco4			14		

04 Sep-08 17:43 (p 1 of 1)

Test Code:

05-2823-1789/29470

								est Code:		05-282	3-1789/294
Acute Fish Su	rvival Test									Pac	ific EcoRis
Test Run No: Start Date: Ending Date: Duration:	02-8510-4975 31 Jul-08 12:15 04 Aug-08 10:30 94h		Test Type: Protocol: Species: Source:	Survival (96h) EPA/821/R-02 Pimephales pi Sticklebacks U	2-012 (2002) romelas		[ E	Analyst: Diluent: Brine: Age:	John Jirasi Laboratory Not Applica 13	Water	
•	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)		Code: Material: Source: Station:	NWDS-003 Ambient Wate URS NWDS	er			Client: Project:	URS 13489		
Comparison S	Summary					_				<del>-</del>	
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	od		
11-8975-5860	96h Survival Ra	te	100	>100	N/A	4.57%	1		Many-One	Rank Test	
	Rate Summary Control Type	Cour	nt Mean	95% LCL	95% UCL	Min					
	Lab Water	4	1	1	1	1	Max 1	Std E	Err Std [		Diff%
6.25	Cab Water	4	0.975	0.956	0.994	0.9	1	0.009	-	0.0%	0.0%
12.5		4	1	1	1	1	1	0.008	0.05	5.13% 0.0%	2.5% 0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	ō	0.0%	0.0%
96h Survival F	Rate Detail					<del>_</del>			<u></u>		
Conc-%	Control Type	Rep	1 Rep 2	Rep 3	Rep 4						
	Lab Water	1	1	1	1						
5.25		1	0.9	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Report Date: Test Code:

04 Sep-08 17:43 (p 1 of 2)

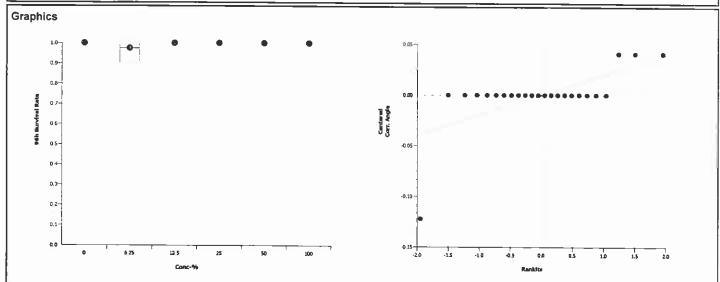
05-2823-1789/29470

							Test	Code:		05-2823	-1789/2947
Acute Fish S	urvival Test									Paci	fic EcoRis
Analysis No:	11-8975-5860	Er	ndpoint: 96	h Survival Ra	nte		CET	'IS Version:	CETISv1	.6.5	
Analyzed:	04 Sep-08 17:	43 <b>A</b> r	nalysis: No	nparametric-	Control vs 1	realments	Offic	cial Results	: Yes		
Data Transfo	rm	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	<u></u>
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	4.57%	
Steel Many-C	ne Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision	(5%)			
Lab Water	6.25		16	10	1	0.6100	Non-Sign	ificant Effect			
	12.5		18	10	1	0.8330	Non-Sign	ificant Effect	1		
	25		18	10	1	0.8330	Non-Sign	ificant Effect	t		
	50		18	10	1	0.8330	Non-Sign	ificant Effect			
	100		18	10	1	0.8330	Non-Sign	ificant Effect	:		
ANOVA Table	9										
Source	Sum Squ	ares	Mean Sq	uare	DF	F Stat	P-Value	Decision	(5%)		
Between	0.005533	194	0.001106	639	5	1	0.4460	Non-Signi	ficant Effect		
Error	0.019919	5	0.001106	639	18						
Total	0.025452	69206166	0.002213	27762119	23						
ANOVA Assu	mptions		-								
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equali	ty of Variance	e 1	4.25	0.4460	Equal Va	riances	• •		
Distribution	Shapiro-	Wilk Norm	ality	0.463		0.0000	Non-norn	nal Distributi	on		
96h Survival	Rate Summary			_							
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
)	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
Angular (Cor	rected) Transfor	med Sur	nmary			-		<del></del>		-	
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
6.25		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
12.5		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
25		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
50		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
100		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
		-7	1.77 (	1.77	1.79	1.44 L	1.99 T	U	U	0.070	0.0%

Report Date: Test Code: 04 Sep-08 17:43 (p 2 of 2) 05-2823-1789/29470

Acute Fish Survival Test

Analysis No: 11-8975-5860 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:43 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



# 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #: 404) Age: 13 days	
rest Material:	NWDS-003-TOX	Organism Supplier: Stick Chacks	•
Test ID#:	29470Project #13489	Control/Diluent: EPAMH	
Test Date:	7/31/09 Randomization: 4.6.2	Control Water Batch: 1124	
Feeding To	Time: 1130 Initials: 1000	Feeding T46-hr Time: 0830 Initials JPC	

Treatment	Temp		Н	D.O.	(mg/L)	Conductivity (µS/em)			# Live C	SIGN-OFF		
	(°C)	new	old	new	old	new	old	Rep A	Rep B	Rep C	Rep D	
Control	20.0	8.21		9.0	. 101.	278		10	10	10	10	Date: 113\108
6.25%	20.0	8.13	L U	9.0		314		10	10	10	10	Sample ID:
12.5%	20.0	8.06		8.8		344		10	10	10	10	Test Solution Prep:
25%	20.0	7.96		8.8		409		10	10	10	10	New WQ:
50%	20.0	7.84		9.1		545		10	10	10	10	Initiation Time:
100%	20.0	7,68		9.0		814		10	10	10	10	Initiation Sign off:
Meter ID:	47	PH II		DO12		E (04						
Control	20.2		7.85	4	7.2		285	10	(0	10	10	Date: 8/1/08
6.25%	20.2		7.91		7.0		314	10	10	10	10	Count Time: 4550 (Count Signoit:
12.5%	20.2		7.94		7.1	1333	354	10	10	/0	10	Count Signoff: 7
25%	20.2		7.98		7-1		421	10	10	10	10	Old WQ: JPC
50%	20.2		8.07		6.9		555	10	10	10	10	
100%	20,2		8.11		6.9		815	10	10	10	10	
Meter ID:	47		POHe		DDIZ		E,04	11.				
Control	202	4.17	7.44	818	4.6	7.49	240	10	10	W	10	Date: 8/2/08
6.25%	20,2	4.07	7.90	9,1	5.0	307	318	10	9	10	10	Sample ID: 20180
12.5%	202	6.62	2099	4.0	9.9	378	355	10	10	10	10	Test Solution Prep:
25%	20.2	7.90	7.44	0,0	8.7	408	423	10	w	10	10	New WQ: 110
50%	20.2	279	7.99	9,1	6.6	543	555	10	10	10	10	Renewal Tyne: 1220
100%	20.2	7.66	200	4.7	4.6	804	820	lo	lo	10	10	Renewal Signoff:
Meter ID:	47	DHO'S	PHOS	2100	100/2		204			10		Old WQ //MA
Control	20.		7.88		84		278	10	10	10	10	Date: 18/03/08
6.25%	20-1		7.96		8.5		312	10	9	טו	10	Count Time: 0925
12.5%	20.1		7.90		8.3		345	σl	10	טו	10	Count Signoil: QV
25%	20.1		7.98		2.3		413	10	10	10	10	Old WQ: SC
50%	1001		8.04		8.3		550	10	10	10	10	
100%	201		8.11		8.1		813	10	10	10	10	
Meter ID:	47		PH03		2012		FOA					
Control	20.2		6.27		8.6		476	ID	lo	10	10	Date: 8/4/08
6.25%	20,2		8.09		8. Y		323	10	9	10	10	Termination Time:
12.5%	20.2		6-04		8.5		361	10	10		10	Termination Signoil:
25%	20.2	· · · · · ·	800		8-5		432	(0	16	10	14	Old WO: HTA
50%	20,2		8.06		8.3	_ // "4/ //			10	10		ли
100%	20.2		8.02		8.2		574	10			10	
Meter ID:	47		PHU9		Dalo		573	10	10	D	16	

### **CETIS Summary Report**

Report Date:

05 Sep-08 08:17 (p 1 of 1)

Test Code:

02-5397-7476/29471

				_				,			
Acute Fish Su	rvival Test									Pacif	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	01-2486-3053 01 Aug-08 14:00 05 Aug-08 13:10 95h	0 0	Test Type: Protocol: Species: Source:	Survival (96h) EPA/821/R-02 Pimephales pr Aquatic Biosys	omelas		D: B	iluent: rine:	John Jirasritum Laboratory Wat Not Applicable 8	_	
	20-9391-4618 31 Jul-08 06:40 31 Jul-08 12:04 31h (13.4 °C)		Code: Material: Source: Station:	NWDS-004 Ambient Wate URS NWDS	r		-		URS 13489		
Comparison S	Gummary										
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	τυ	Metho	od		
06-8328-2240	96h Survival Ra	te	100	>100	N/A	5.6%	1	Steel	Many-One Rant	< Test	
96h Survival F	Rate Summary	_		-	·						<del></del>
Conc-%	Control Type	Coun	t Mean	95% LCL	. 95% UCL	Min	Max	Std E	rr Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.009	13 0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.975	0.956	0.994	0.9	1	0.009	13 0.05	5.13%	2.5%
96h Survival F	Rate Detail						•			-	
Сопс-%	Control Type	Rep 1	l Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1		_				
6.25		0.9	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		0.9	1	1	1						

05 Sep-08 08:17 (p 1 of 2)

Test Code:

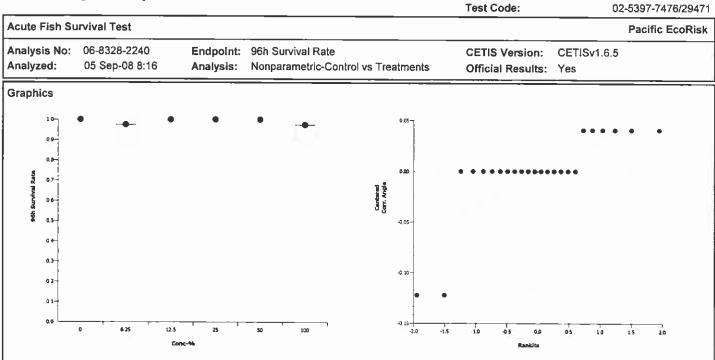
02-5397-7476/29471

							lest	Code:		02-5397	-7476/2947
Acute Fish S	urvival Test			<del></del>		-		-		Paci	fic EcoRisk
Analysis No:	06-8328-2240	End	dpoint: 96h	Survival Ra	ate	<u>.</u>	CET	S Version:	CETISv1	6.5	
Analyzed:	05 Sep-08 8:10	_	•	nparametric-		realments		ial Results	-		
Data Transfo	rm	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	5.6%	
Steel Many-C	One Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision	(5%)			
Lab Water	6.25		16	10	1	0.6100	Non-Signi	ficant Effect	<u>t</u>	-	
	12.5		18	10	1	0.8330	_	ficant Effect			
	25		18	10	1	0.8330	•	ficant Effect			
	50		18	10	1	0.8330	•	ficant Effect			
	100		16	10	1	0.6100	_	ficant Effect			
ANOVA Table	<del></del>								<del>_</del>		
Source	Sum Squ	ıares	Mean Squ	Jare	DF	F Stat	P-Value	Decision	(5%)		
Between	0.008853	11	0.0017708	522	5	0.8	0.5640	Non-Signi	ificant Effect		
Error	0.039839	1	0.0022132	278	18			_			
Total	0.048692	1062693	0.0039838	39971815	23						
ANOVA Assu	ımptions								<u> </u>		
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance	0.8	4.25	0.5640	Equal Var	riances			
Distribution		Wilk Norma	-	0.615		0.0000	Non-norm	al Distributi	on		
96h Survival	Rate Summary						-				-
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
Angular (Cor	rrected) Transfo	rmed Sum	mary								
Сопс-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
6.25		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
12.5		4	1.41	1.41	1.41	1.41	1.41	0.0131	0.0013	0.0%	0.0%
25		4	1.41	1.41	1.41		1.41		-		
50		4				1.41		0	0	0.0%	0.0%
		•	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
100		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%

Report Date:

05 Sep-08 08:17 (p 2 of 2)

02-5397-7476/29471



# 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #: _4061	Age: 8 Mays
Test Material:	NWDS-004-TOX	Organism Supplier:	AGS
Test ID#:	29471 Project # 13489	Control/Diluent: EPAMH	
Test Date:	\$/1/08 Randomization: 466	Control Water Batch:	1125
Feeding To	Time: 1700 Initials:	Feeding T46-hr Time: 500	Initials 10

Treatment	Temp (°C)	Р	Н	D.O. (mg/L)		Conductiv	ity (µS/em)		# Live C	Organisms		SIGN-OFF
		new	old	пеw	old	new	old	Rep A	Rep B	Rep C	Rep D	
Control	20.3	8.21		8.5		278		10	10	10_	10	Date: 1/1/08
6.25%	20.3	8.19		8.5		294		10	! 10	10	10	Sample ID: 20 (34
12.5%	20.3	8.17	- <u></u>	8.6		306		10	10	10	10	Test Solution Prep
25%	20.3	8.14		8.7	10.707	332		10	10	10	10	New WQ: AT
50%	20.3	8.08		8.5		385		10	10	10	10	Initiation Time: 1406
100%	20.3	8.01		8.5		493		10	10	10	10	Initiation Sign-off:
Meter ID:	47	pho9		0010		Ecos						
Control	20.0		7.87		8.3	الشابات	286	10	10	10	10	Date: 8/2/09
6.25%	20.0		7.84		8.2		299	10	10	10	(0	Count Time:
12.5%	20,0		7.84		8.2		313	10	10	10	10	Count Signoff:
25%	λο.0		7.85		8.2		340	10	10	10	10	OID WQ: DLR
50%	20.0		7.85		8.0		394	10	10	10	10	
100%	200		7.85		7.7		506	10	10	10	10	
Meter ID:	47		pH 11		Dolo		Ec05				10	
Control	20.2	8.32		9.1	9.4	281	441	10	10	10	10	Date: 8 /3/08
6.25%	202	8.32	7.4	89	86	292	372	9	10	10	10	Sample ID 20194
12.5%	20,2	8-31	7.41	8.9	4.3	307	486	10	10	10	10	Test Solution Prep:
25%	202	8.27	77	8.8	8.6	335	356	10	(0	10	10	New WQ: AS
50%	20.2	8 21	788	8.9	8.7		444	16	10	10	10	Renewal Time:
100%	20,2	7 11	8.00	9.1	87	494	503	10	10	16	10	Renewal Signoff:
Meter ID:	47	POHO		DOID	_	Ec05			10		10	Old WO
Control	201	DAO	7,87	POID	8.5	CCOO	281	10	10	10	10	Daie: PU/OB
6.25%	20.1		7.86		8.5		297	9	10	10	10	Count Time:
12.5%	20.1		7.89				308	10	10	10	10	Count Signoff: RV
25%	20-1		7.96		8.5		390	10	10	10	10	Old WQ: SL
50%	20.1		7.93		8.4			10	10	10	10	
100%	v.1		8.02		8.4		335 498	9	10	10	10	
Meter ID:	47		pH03	. مودر	0.4			2 24	10	70		
Control	20,4		3.17		7.2		E(0)		1.0	100	10	Date: SICIAE
6.25%	20 A		8.08		7.1	-	305	9	10	10	<del></del>	Termination Time:
12.5%			8.07				313	10	10	j a	10	Termination Signofi:
25%	20,4		80.8		7.0		349		10	10	10	Old WQ:
50%	20.4				69			10	10	10	10	3
100%	20.4		8.14		40		402	10	<del> </del>	10	16	
-	20,4		8,20	7 - 3	7.0		517	9	10	10	10	
Meter ID:	47		A/103		oio	[	Se R					

04 Sep-08 17:26 (p 1 of 1)

Test Code:

21-1749-7605/29472

								- 13	ost Code	••		21-11-	3-10001234
Acute Fish Su	rvival Test											Pac	ific EcoRis
	07-1263-9001	Te	st Type:		ival (96h)			A	nalyst:	Joh	n Jirasritum	rong	
Start Date:	30 Jul-08 16:15		otocol:			012 (2002)		D	iluent:	Lab	oratory Wat	er	
Ending Date:	03 Aug-08 15:30	•	ecies:		phales pro			В	rine:	Not	Applicable		
Duration:	95h	So	urce:	Aqua	itic Biosyst	ems, CO		A	ge:	9			
Sample No:	07-9557-0216	Co	de:	SJR	DS-001			С	lient:	URS	S		-
	29 Jul-08 08:00	Ma	iterial:		ient Water			P	roject:	134	89		
	: 29 Jul-08 11:50		urce:	URS									
Sample Age:	32h (18.1 °C)	Sta	ation:	SJRE	os ———								
Comparison S	Summary												
Analysis No	Endpoint		NOEL		LOEL	TOEL	PMSD	TU	Met	thod			
07-2608-5430	96h Survival Rat	e	100		>100	N/A	7.4%	1	Ste	el Mar	y-One Rank	Test	
Point Estimat	e Summary							-					
Analysis No	Endpoint		Level		Conc-%	95% LCL	95% UCL	TU	Met	hod			
15-0145-2135	96h Survival Rate	е	EC2.5	_	81.8	N/A	N/A	1.22	Line	ar Re	gression (M	LE)	
			EC10		239000	N/A	N/A	0.0004	18				
			EC15		4270000	N/A	N/A	0.0000	234				
			EC20		4.22E+07	N/A	N/A	2.37E-	06				
			EC25		3.02E+08	N/A	N/A	3.32E-	07				
			EC40		4.27E+10	N/A	N/A	2.34E-	09				
			EC50		8.42E+11	N/A	N/A	1.19E-	10				
96h Survival I	Rate Summary											_	_
Conc-%		Count	Mean		95% LCL	95% UCL	Min	Max	Std	Err	Std Dev	CV%	Diff%
0		4	1		1	1	1	1	0		0	0.0%	0.0%
6.25		4	1		1	1	1	1	0		0	0.0%	0.0%
12.5		4	1		1	1	1	1	0		0	0.0%	0.0%
25		4	0.925		0.889	0.961	0.8	1	0.01	175	0.0957	10.4%	7.5%
50		4	0.975	1	0.956	0.994	0.9	1	0.00	0913	0.05	5.13%	2.5%
100		4	1		<u>1</u>	1	1	1	0		0	0.0%	0.0%
96h Survival I	Rate Detail												
Conc-%		Rep 1	Rep 2		Rep 3	Rep 4							
0		1	1		1	1							
6.25		1	1		1	1							
12.5		1	1		1	1							
25		0.8	1		1	0.9							
50		0.9	1		1	1							
100		1	1		1	1							

Report Date: Test Code:

04 Sep-08 17:26 (p 1 of 2)

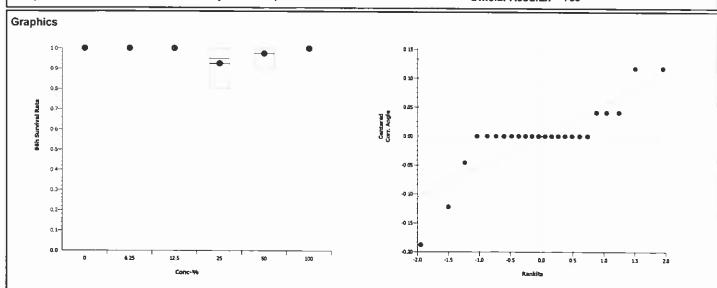
			_	_			Test	Code:		21-1749	-7605/29472
Acute Fish S	urvival Test							<u> </u>		Paci	fic EcoRisk
Analysis No:	07-2608-5430	E	ndpoint: 96h	Survival Ra	ate		CET	IS Version:	CETISv1	.6.5	
Analyzed:	04 Sep-08 17:	26 A	nalysis: Nor	parametric-	-Control vs 1	reatments	Offic	ial Results	: Yes		
Data Transfo	rm	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run	***	100	>100	N/A	1	7.4%	-
Steel Many-C	ne Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision	(5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330	_	ficant Effect			
	25		14	10	1	0.3450	_	ficant Effect			
	50		16	10	1	0.6100	Non-Signi	ficant Effect			
	100		18	10	1	0.8330		ficant Effect			
ANOVA Table	)			_	<del></del>						<del></del>
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision	(5%)		
Between	0.044777	92	0.0089555	84	5	1.9	0.1440		ficant Effect		
Error	0.084704	92	0.0047058	29	18					•	
Total	0.129482	83925653	0.0136614	1298786	23						
ANOVA Assu	mptions		<del></del> _							·	<del></del>
Attribute	Test			Test Stat	Critical	P-Value	Decision(	(1%)			
Variances	Mod Lev	ene Equal	ity of Variance	4.6	4.25	0.0070	Unequal				
Distribution	Shapiro-	Wilk Norm	ality	0.735		0.0000	•	al Distribution	on		
96h Survival	Rate Summary								<del></del>		
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.925	0.889	0.961	0.8	1	0.0178	0.0957	10.4%	7.5%
50		4	0,975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
100		4	1	1	1	1	1	0.00928	0.05	0.0%	0.0%
Angular (Cor	rected) Transfor	mod Sun			· · · · · · · · · · · · · · · · · · ·		<del></del>				
			-	050/ 1.01	050/ 1101						
Conc-%	Control Type Lab Water	Count 4	Mean 1.41	95% LCL 1.41	95% UCL 1.41	Min 1.41	Max	Std Err	Std Dev	CV%	Diff%
6.25	FOR AAGIC!	4	1.41				1.41	0	0	0.0%	0.0%
				1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
12.5		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
25		4	1.3	1.24	1.35	1,11	1.41	0.0273	0.147	11.3%	8.28%
50		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
100		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%

Report Date: Test Code: 04 Sep-08 17:26 (p 2 of 2) 21-1749-7605/29472

Acute Fish Survival Test

Analysis No: 07-2608-5430 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 17:26 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



EC40

EC50

4.27E+10 N/A

8.42E+11 N/A

N/A

N/A

Report Date:

04 Sep-08 17:26 (p 1 of 2) 21-1749-7605/29472

Acute Fish Survival Test

Analysis No: 15-0145-2135 Endpoint: 96h Survival Rate

CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 17:26 Analysis: Linear Regression (MLE)

Official Results: Yes

Anaiyze	9 <b>a:</b> 04:	Sep-08 17:2	6 Anal	ysis: Lin	ear Regressi	ion (MLE)		Offic	ial Results	: Yes
Linear I	Regression	Options	_							
Model I	Function			Threshol	d Option	Threshold	Optimized	l Pooled	Het Corr	Weighted
Log-No	mal [NED=/	A+B*log(X)]		Control Ti	nreshold	0	Yes	No	No	Yes
Regres	sion Summ	ary				-				
Iters	LL	AICc	Mu	Sigma	G Stat	Chi-Sq	Critical	P-Value	Decision(	(5%)
7	-19.5	43.8	13.6	5.11	23.6	26.4	28.9	0.0915	Non-Signi	ficant Heterogeneity
Point E	stimates									
Level	Conc-%	95% LCL	95% UCL		TU	95% LCL	95% UCL			
EC2.5	81.8	N/A	N/A		1.22	N/A	N/A			
EC10	239000	N/A	N/A		0.000418	N/A	N/A			
EC15	4270000	N/A	N/A		0.0000234	N/A	N/A			
EC20	4.22E+07	N/A	N/A		2.37E-06	N/A	N/A			
EC25	3.02E+08	N/A	N/A		3.32E-07	N/A	N/A			

Regression Pa	rameters						
Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(5%)
Slope	0.196	0.485	-0.756	1.15	0.403	0.6910	Non-Significant Parameter
Intercept	2.67	0.737	1.22	4.11	3.62	0.0020	Significant Parameter

N/A

N/A

2.34E-09 N/A

1.19E-10 N/A

Residual Analy	/sis				
Attribute	Method	Test Stat	Critical	P-Value	Decision(5%)
Variances	Mod Levene Equality of Variance	4.53	3.06	0.0134	Unequal Variances
Distribution	Shapiro-Wilk Normality	0.482		0.0000	Non-normal Distribution

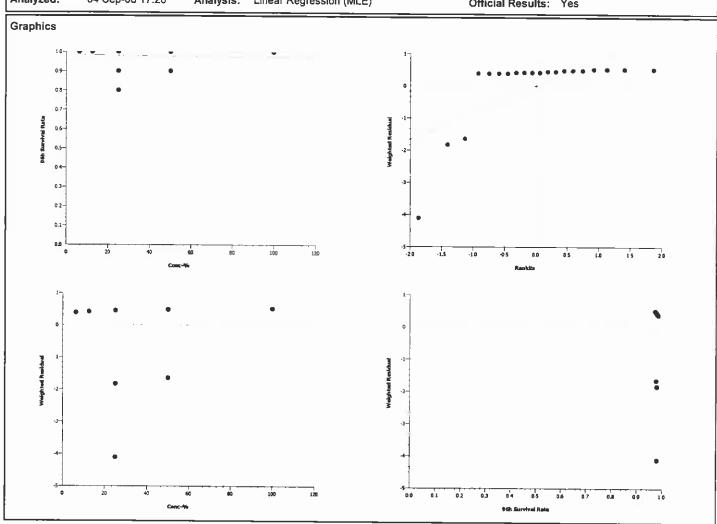
96h Surviv	val Rate Summary		Calculated Variate(A/B)								
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	_ A	В
0	Lab Water	4	1	1	1	0	0	0.0%	0.0%	40	40
6.25		4	1	1	1	0	0	0.0%	0.0%	40	40
12.5		4	1	1	1	0	0	0.0%	0.0%	40	40
25		4	0.925	0.8	1	0.0175	0.0957	10.4%	7.5%	37	40
50		4	0.975	0.9	1	0.00913	0.05	5.13%	2.5%	39	40
100		4	1	1	1	0	0	0.0%	0.0%	40	40

96h Surviv	/al Rate Detail					
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Lab Water	1	1	1	1	
6.25		1	1	1	1	
12.5		1	1	1	1	
25		8.0	1	1	0.9	
50		0.9	1	1	1	
100		1	1	1	1	

Report Date: Test Code: 04 Sep-08 17:26 (p 2 of 2) 21-1749-7605/29472

Acute Fish Survival Test

Analysis No: 15-0145-2135 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:26 Analysis: Linear Regression (MLE) Official Results: Yes



# 96 Hour Acute Fathead Minnow Toxicity Test

Client:	<u></u>	IRS: DMC	Organism Log #:	4034	Age:	9 days	
l'est Material.	SJR	DS-001-TOX	Organism Supplier:	ABS		,	
Test ID#:	29472	Project #13489	Control/Diluent:	ЕРАМН			
Test Date:	7/30/08	Randomization: 4.4.	Control Water Batch:	1124			
Feeding To	Time: \\ \\ \\ \\ \\ \\ \\ \\ \	Initials: 」ない	Feeding T46-hr	Time: 0845	Initials	170	

Treatment	Temp		Н	D.O.	(mg/L)	Conductiv	ity (µS/cm)		# Live C	Organisms		alov orr
i realment	(°C)	new	old	new	old	new	old	Rep A	Rep B	Rep C	Rep D	SIGN-OFF
Control	19.8	8.17		8,5		300		10	10	10	10	Date: 7/30108
6.25%	19.8	8.19		\$.5		414		10	10	10	10	Sample ID:
12.5%	19.8	1.20		8.5		496		10	10	10	10	Test Solution Prep:
25%	19.8	8.20		8.7		611		10	10	10	10	New WQ:
50%	19.8	8.20		8.7		1032		10	10	10	10	Initiation Time: 1615
100%	19.8	8-20		9.7		1709		10	10	10	10	Initiation Sign-off:
Meter ID:	55	PH43		port		Ecos						U = 2.46
Control	19.7		8.15		7.8		336	10	10	10	01	Date: 7/31/08
6.25%	19-7		8.12		7.7		417	10	10	10	10	Count Time: 1015
12.5%	19.7		8.13		7.1		200	10	10	10	10	Count Signoil: JPC
25%	19.7		8.20		7.6		681	10	10	10	10	Old WQ:
50%	19.7		8.21		7.4		1040	10	10	10	10	0
100%	19.7		8.31		7.6		1722	10	10	10	10	
Meter ID:	47		ph. 03		Dort		₹c05					
Control	20.1	8.08	12.3	8.7	8.7	334	311	10	10	10	10	Date: 8/1/08
6.25%	20.1	8-/1	8.08	8.5	8.3	363	418	10	10	10	10	Sample ID: 70171
12.5%	20.1	8.14	8.07	8.5	8.4	+3 470	Sar	10	10	10	10	Test Solution Prep:
25%	20.1	8.16	8.16	28.6	8 18	2454	1050,00	8	16	10	10	New WQ: 64
.50%	20.1	K.16	8.16476	8.9	8.1	1002	1050	10	10	16	10	Renewal Time / 355
100%	20-1	8.14	8.35	9.8	8.1	1702	1752	0	10	10	10	Renewal Signoll:
Meter ID:	47	Phos	PH 09	D014	PAU	E001	& Eas					ola wo Hty
Control	25.5		7.91		9-7		708	10	lo	10	(0	Date: 8/208
6.25%	20.5		7.94		7.6		376	10	10	10	10	Count Time: 1500
12.5%	205		7.87		8.5		469	10	10	10	10	Count Signoff:
25%	205		7.45		8.7		666	8	10	10	9	Old WQ:
50%	205		912		6.7		1016	9	10	10	10	
100%	20.5		4.37		6.4		1716	10	10	10	10	
Meter ID:	55		0403		10012		B04					
Control	26.5		8.06		8.6		305	10	10	10	10	Date: 8/3/08
6.25%	20.5		7.99		8,5		377	10	10	10	10	Termination Time:
12.5%	20.5		2.99		8.7		434	10	10	10	10	Termination Signoil:
25%	20.5		8.01		8.6		670	8	16	10	٩	Old WQ: SC
50%	20.5		7.12	:	8.6		1031	9	10	10	10	
100%	20.5		8,28		8.4		1731	10	10	10	10	
Meter ID:	47		PHa		1014		E(01			7.7		

### **CETIS Summary Report**

Report Date: Test Code:

12 Sep-08 14:51 (p 1 of 1)

16-3136-9749/29473

				_			Te	st Code:			16-3136	-9749/294
Acute Fish Su	ırvival Test										Paci	fic EcoRis
Test Run No: Start Date: Ending Date: Duration:	06-8052-7081 30 Jul-08 18:15 03 Aug-08 16:3 94h	5 <b>S</b> (	est Type: rotocol: pecies: ource:	Survival (96h) EPA/821/R-02- Pimephales pro Aquatic Biosys	omelas	<u> </u>	Di Bi	nalyst: luent: rine: ge:	Labor	Jirasritumi ratory Wate pplicable	•	
-	20-7608-5873 29 Jul-08 23:38 30 Jul-08 13:50 19h (5 °C)	M Se	ode: aterial: ource: tation:	SJRDS-002 Ambient Water URS SJRDS				ient: oject:	URS 13489	9		
Comparison S	Summary	<del></del>	_			-						
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	nod			
15-1557-0845	96h Survival Ra	ite	100	>100	N/A	4.57%	1	Stee	Many	-One Rank	Test	
96h Survival F	Rate Summary			<del></del>			-					<del>-</del>
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std I	Err	Std Dev	CV%	Diff%
	Lab Water	4	1	1	1	1	1	Ô		0	0.0%	0.0%
5.25		4	1	1	1	1	1	0		0	0.0%	0.0%
12.5		4	1	1	1	1	1	0		0	0.0%	0.0%
25		4	0.975	0.956	0.994	0.9	1	0.009	913	0.05	5.13%	2.5%
50		4	1	1	1	1	1	0		0	0.0%	0.0%
100		4	1	1	1	1	1	0		0	0.0%	0.0%
96h Survival F	Rate Detail											
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4							
D	Lab Water	1	1	1	1	4						
5.25		1	1	1	1							
12.5		1	1	1	1							
25		0.9	1	1	1							
50		1	1	1	1							



04 Sep-08 17:29 (p 1 of 2)

Test Code: 16-3136-9749/29473

Acute Fish S	urvival Test									Paci	fic EcoRisi
Analysis No:	15-1557-0845	End	dpoint: 96h	Survival Ra	ite		CETI	S Version:	CETISv1.	6.5	
Analyzed:	04 Sep-08 17:		•	parametric-		reatments.		ial Results:		0.0	
								iai itesuits.	163		
Data Transfo		Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corr	rected)		C > T	Not Run		100	>100	N/A	1	4.57%	
Steel Many-C	One Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		18	10	1	0.8330		ficant Effect			
	12.5		18	10	1	0.8330	_	ficant Effect			
	25		16	10	1	0.6100	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Tabl	0				<del></del>					_	
Source	Sum Squ	Jares	Mean Squ	ıare	DF	F Stat	P-Value	Decision(	5%)		
Between	0.005533	194	0.0011066	39	5	1	0.4460	Non-Signif	icant Effect		
Error	0.019919	5	0.0011066	39	18			•			
Total	0.025452	69206166	0.0022132	7762119	23						
ANOVA Assu	umptions					-			· · · · · · · · · · · · · · · · · · ·		
Attribute	Test			Test Stat	Critical	P-Value	Decision(	1%)			
Variances	Mod Lev	ene Equalit	y of Variance	1	4.25	0.4460	Equal Var	iances			
Distribution	Shapiro-	Wilk Norma	lity	0.463		0.0000	Non-norm	al Distributio	n		
96h Survival											
	Rate Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
Conc-%		Count 4	Mean 1	<b>95% LCL</b>	95% UCL	Min_					Diff% 0.0%
	Control Type						Max	Std Err	Std Dev	0.0%	0.0%
0	Control Type	4	1	1	1	1	Max 1	Std Err	Std Dev	0.0% 0.0%	0.0%
0 6.25	Control Type	4	1	1	1 1 1	1	<b>Max</b> 1	Std Err 0 0	Std Dev 0 0 0	0.0% 0.0% 0.0%	0.0% 0.0% 0.0%
0 6.25 12.5 25	Control Type	4 4 4 4	1 1 1 0.975	1 1 1 0.956	1 1 1 0.994	1 1 1 0.9	Max 1 1 1 1	Std Err 0 0 0 0 0.00928	Std Dev 0 0 0 0 0.05	0.0% 0.0% 0.0% 5.13%	0.0% 0.0% 0.0% 2.5%
0 6.25 12.5	Control Type	4 4 4	1 1 1	1 1 1	1 1 1	1 1 1 0.9	Max 1 1 1 1 1	Std Err 0 0 0 0 0.00928	Std Dev 0 0 0 0 0.05	0.0% 0.0% 0.0% 5.13% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0%
0 6.25 12.5 25 50 100	Control Type Lab Water	4 4 4 4 4	1 1 1 0.975 1	1 1 1 0.956	1 1 1 0.994	1 1 1 0.9	Max 1 1 1 1	Std Err 0 0 0 0 0.00928	Std Dev 0 0 0 0 0.05	0.0% 0.0% 0.0% 5.13%	0.0% 0.0% 0.0% 2.5%
0 6.25 12.5 25 50 100 Angular (Con	Control Type Lab Water	4 4 4 4 4 4 rrmed Sumi	1 1 1 0.975 1 1	1 1 1 0.956 1	1 1 1 0.994 1	1 1 1 0.9 1	Max 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0.00928 0	Std Dev 0 0 0 0 0.05 0	0.0% 0.0% 0.0% 5.13% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0%
0 6.25 12.5 25 50 100 Angular (Cor Conc-%	Control Type  Lab Water  rrected) Transfor  Control Type	4 4 4 4 4 7rmed Sumi	1 1 0.975 1 1 mary	1 1 1 0.956 1 1	1 1 0.994 1 1	1 1 1 0.9 1 1	Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0.00928 0 0	Std Dev 0 0 0 0.05 0 0	0.0% 0.0% 0.0% 5.13% 0.0% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0% 0.0%
0 6.25 12.5 25 50 100 Angular (Cor Conc-%	Control Type Lab Water	4 4 4 4 4 rrmed Sumi	1 1 0.975 1 1 mary Mean	1 1 0.956 1 1 95% LCL	1 1 0.994 1 1 95% UCL	1 1 0.9 1 1 1 Min 1.41	Max 1 1 1 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0.00928 0 0 Std Err	Std Dev 0 0 0 0 0.05 0 0 Std Dev	0.0% 0.0% 0.0% 5.13% 0.0% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0% 0.0%
0 6.25 12.5 25 50 100 Angular (Cor Conc-% 0 6.25	Control Type  Lab Water  rrected) Transfor  Control Type	4 4 4 4 4 7rmed Sumi	1 1 0.975 1 1 mary Mean 1.41	1 1 0.956 1 1 95% LCL 1.41 1.41	1 1 0.994 1 1 1 95% UCL 1.41 1.41	1 1 0.9 1 1 1 Min 1.41 1.41	Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0 0.00928 0 0  Std Err 0	Std Dev 0 0 0 0 0.05 0 0 Std Dev 0	0.0% 0.0% 0.0% 5.13% 0.0% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0% 0.0%
0 6.25 12.5 25 50 100 Angular (Cor Conc-% 0 6.25 12.5	Control Type  Lab Water  rrected) Transfor  Control Type	4 4 4 4 4 7rmed Sumi Count 4 4	1 1 0.975 1 1 mary Mean 1.41 1.41	1 1 0.956 1 1 95% LCL 1.41 1.41	1 1 0.994 1 1 1 95% UCL 1.41 1.41	1 1 0.9 1 1 1 Min 1.41 1.41	Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0.00928 0 0 Std Err 0 0	Std Dev 0 0 0 0 0.05 0 0 Std Dev 0 0	0.0% 0.0% 5.13% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0% 0.0% 0.0%
0 6.25 12.5 25 50 100 Angular (Cor Conc-% 0 6.25 12.5 25	Control Type  Lab Water  rrected) Transfor  Control Type	4 4 4 4 4 7rmed Sumi Count 4 4 4	1 1 0.975 1 1 mary Mean 1.41 1.41 1.41	1 1 0.956 1 1 95% LCL 1.41 1.41 1.41	1 1 0.994 1 1 1 95% UCL 1.41 1.41 1.41	1 1 0.9 1 1 1 Min 1.41 1.41 1.41 1.25	Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0.00928 0 0  Std Err 0 0 0.0151	Std Dev 0 0 0 0 0.05 0 0  Std Dev 0 0 0 0 0.0815	0.0% 0.0% 0.0% 5.13% 0.0% 0.0% 0.0% 0.0% 0.0% 5.94%	0.0% 0.0% 2.5% 0.0% 0.0% 0.0% 0.0% 0.0% 2.89%
0 6.25 12.5 25 50 100 Angular (Cor Conc-% 0 6.25 12.5	Control Type  Lab Water  rrected) Transfor  Control Type	4 4 4 4 4 7rmed Sumi Count 4 4	1 1 0.975 1 1 mary Mean 1.41 1.41	1 1 0.956 1 1 95% LCL 1.41 1.41	1 1 0.994 1 1 1 95% UCL 1.41 1.41	1 1 0.9 1 1 1 Min 1.41 1.41	Max 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Std Err 0 0 0 0.00928 0 0 Std Err 0 0	Std Dev 0 0 0 0 0.05 0 0 Std Dev 0 0	0.0% 0.0% 5.13% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 2.5% 0.0% 0.0% 0.0%

Report Date: Test Code: 04 Sep-08 17:29 (p 2 of 2)

16-3136-9749/29473

**Acute Fish Survival Test** Pacific EcoRisk Analysis No: 15-1557-0845 Endpoint: 96h Survival Rate **CETIS Version: CETISv1.6.5** Analyzed: 04 Sep-08 17:29 Analysis: Nonparametric-Control vs Treatments Official Results: Yes Graphics 1.0-0.9 96h Survival Rata Cart. Angle 0 6--0.05 0.3-0.2-

-15

-1.0

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# 96 Hour Acute Fathead Minnow Toxicity Test

Client:		JRS: DMC	Organism Log #:	4034	Age:	9 dans	
Γest Material: _	SJR	DS-002-TOX	Organism Supplier:	AGS		J	
Test ID#:		Project #13489	Control/Diluent:	ЕРАМН	_		
Test Date:	7130108	Randomization:	Control Water Batch:	1124			
Feeding To	Time: <b>3</b> 60	Initials:	Feeding T46-hr	Time: 0845	Initials	J7C	

Treatment	Temp	F	Н	D.O.	(mg/L)	Conductiv	ity (µS/cm)		# Live C	)rganisms		FIGN OFF
rreatment	(°C)	new	old	new	old	new	old	Rep A	Rep B	Rep C	Rep D	SIGN-OFF
Control	20.2	8.24		7.3		193		10	10	10	10	Date: 7/30/08
6.25%	70.7	8.10		7.4		350		10	10	10	10	Sample ID: 20177
12.5%	20.2	8.04		7.4		414		10	10	10	10	Test Solution Prep: W
25%	20.2	797		3.1		543		10	10	10	10	New WQ: RV
50%	20.1	7.88		7.5		789		10	10	10	10	Industron Times
100%	20.2	7.79		7.8		1261		10	10	10	10	Initiation Sign-off:
Meter ID:	47	Phil		12012		Ecoy						
Control	19.8		7.94		1.0	THE	303	10	10	10	10	Date: 7/31/08
6.25%	19.8		T.36		7.1		359	10	10	10	10	Count Time: 1430
12.5%	198	- N	7.98		7.2		423	10	10	10	10	Count Signoff: ) PC
25%	19.8		8.02		7.1	the self	222	10	10	10	10	Old WQ: 4
50%	19.8		8.05		7.1		88	10	10	10	10	
100%	19.8		8-10		7.0		1282	10	10	10	10	
Meter ID:	\$5		ph 09		2014		Coi					
Control	20.3	8:07	71,78	9-0	8.4	331	307	10	10	10	10	Date: 6/ 1/69
6.25%	20.3	8.08	7.78	8.4	2.2	366	360	10	10	1.6	10	Sample ID: 20177
12.5%	20.3	8.04	7.81	8.5	9.1	427	431	10	10	10	10	Test Solution Prep:
25%	20.3	7.99	7.94	8.4	21	543	555	9	10	10	10	New WQ: 4
50%	20.3	7.90	8.00	8.6	9,1	791	813	10	10	10	10	Renewal Time: /536
100%	20.3	7.84	8, 11	2.9	8,1	1295	1307	10	10	10	10	Renewal Signolf:
Meter ID:	47	pho3	PLOS	Dolf	po 14	Ecol	Ecol			70		OLIWO AJA
Control	20.4		7.40		6.0		300	10	10	10	10	Date: 8/2/08
6.25%	20.4		7.71		9.2		366	10	10	10	10	Count Time: 1510
12.5%	20.4		7.11		8.3		425	10	10	10	10	Count Signolf: JPC
25%	20.4		7.54	1	8-3		547	9	10	10	10	ON WO:
50%	20.4		7.45		4.3		744	10	10	10	10	100
100%	20.4		4.06		9.0		1289	10	10	10	10	
Meter ID:	55		Oho3		po		Ecole	I I O I		1 3 6		
Control	20.5		7.87		8.1		298	10	10	10	16	Date: 813108
6.25%	20.5		7.91		8.3		371	10	10	10	10	Termination Time:
12.5%	205		7.96		8.1	- 1///00	436	10	10	10	10	Termination Signoff:
25%	20.5		8.01	2	9 )		556	9	10	10	lo	Termination Signoif:
50%	20.5	i	8 07		27		801	10	10	10	10	
100%	20,5		8.18		7.9		1319	10	10	10	10	
Meter ID:	47		MO9		DOP		Ec04	10	10	10	- 00	

# **CETIS Summary Report**

Report Date:

04 Sep-08 17:37 (p 1 of 1)

Test Code:

11-4893-9248/29474

Acute Fish Su	rvival Test										fic EcoRisi
											IIC ECORISI
	18-3050-1790		* -	Survival (96h)			Ar	nalyst: J	ohn Jirasritum	rong	
Start Date:	31 Jul-08 13:30		Protocol:	EPA/821/R-02-	012 (2002)		Di	luent: L	aboratory Wal	er	
Ending Date:	04 Aug-08 11:5	0	Species:	Pimephales pro	omelas		Br	rine: N	lot Applicable		
Duration:	94h		Source:	Sticklebacks U	nlimited		Ag	ge: 1	0		
Sample No:	20-7133-6523		Code:	SJRDS-003			CI	ient: L	IRS		
Sample Date:	30 Jul-08 03:15	;	Material:	Ambient Water			Pr	oject: 1	3489		
Receive Date:	30 Jul-08 13:50	)	Source:	URS				•			
Sample Age:	34h (5 °C)		Station:	SJRDS							
Comparison S	ummary				-	<del></del> -			<del></del>	_ <del></del>	
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Metho	d		
07-9329-8210	96h Survival Ra	ate	100	>100	N/A	4.57%	1	Steel N	lany-One Ran	k Test	
96h Survival F	Rate Summary					-					
Conc-%	Control Type	Cour	nt Mean	95% LCL	95% UCL	Min	Max	Std En	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.0091	3 0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1_	1	1	0	0	0.0%	0.0%
96h Survival F	Rate Detall					<u></u>					-
Conc-%	Control Type	Rep '	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	0.9						
12.5		1	1	1	1						
25		1	1	1	1						
F0		1	1	1	1						
50		•									

Analyst: J QA: SM

04 Sep-08 17:37 (p 1 of 2)

**Test Code:** 11-4893-9248/29474 **Acute Fish Survival Test** Pacific EcoRisk Analysis No: 07-9329-8210 Endpoint: 96h Survival Rate **CETIS Version: CETISv1.6.5** 04 Sep-08 17:35 Analyzed: Analysis: Nonparametric-Control vs Treatments Official Results: Yes Data Transform Zeta Monte Carlo NOEL LOEL **TOEL** TU Alt Hyp **PMSD** C > T Angular (Corrected) Not Run 100 >100 N/A 1 4.57% Steel Many-One Rank Test Control vs Conc-% Test Stat Critical Ties P-Value Decision(5%) Lab Water 6.25 16 10 Non-Significant Effect 1 0.6100 12.5 18 10 1 0.8330 Non-Significant Effect 25 18 10 1 0.8330 Non-Significant Effect 50 18 10 1 0.8330 Non-Significant Effect 100 18 10 1 0.8330 Non-Significant Effect

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)	
Between	0.005533194	0.001106639	5	1	0.4460	Non-Significant Effect	
Error	0.0199195	0.001106639	18				
Total	0.02545269206166	0.00221327762119	23				
ΔΝΟΥΔ Δεεμπ	entions			_			

ANOVA ASSUM	ptions				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	4.25	0.4460	Equal Variances
Distribution	Shapiro-Wilk Normality	0.463		0.0000	Non-normal Distribution
96h Survival Ra	ate Summary				
م م					

son Survival Rate Summary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	DIff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
6.25		4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
12.5		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
25		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
50		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
100		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%

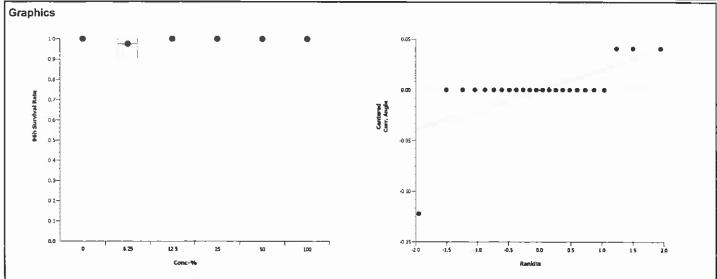
Report Date: Test Code: 04 Sep-08 17:37 (p 2 of 2)

11-4893-9248/29474

Acute Fish Survival Test

Analysis No: 07-9329-8210 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 17:35 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



### 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC			Organism Log #:	401	<del>13</del> _	Age:	10	day	5	
Test Material: _	SJRDS-003-TOX			Organism Supplier:	Sti	cklebo	245	umlto	<u>4. /</u>		
Test ID#:	29474	Project #	13489	Control/Diluent:	EPAMH				•		
Test Date:	7/31/06	Rando	mization: 4.6.9	Control Water Batch:	1124						
Feeding To	Time: 0830	Initials:	JPW	Feeding T46-hr	Time:	0820	Initials	720			

Treatment	Temp	pH new old				Conductiv	nductivity (µS/cm)		# Live O	SIGN-OFF		
	(°C)					new	old	Rep A Rep B		Rep C	Rep D	SIGN-OFF
Control	19.7	7 64.18		7.8		302		10	10	10	10	Date: 7/31/08
6.25%	19.7	8. (2		7.7		347		10	10	10	10	Sample ID:
12.5%	19.7	8.14		7.1		385		10	10	10	10	Test Solution Prep. M2_
25%	19.7	8.07	2/11112	8.0		465		10	10	10		New WO: *
50%	19.7	7.96		8 1		427		10	10	10	10	Initiation Time:
100%	19.7	7.3		4.6		760		10	10	10	10	Initiation Time: Initiation Sign-oil:
Meter ID:	55	A 03		D010		€405				U		Sile Selles
Control	20.2		7.95		6.8		300	10	10	10	10	Count Time:   Sept.
6.25%	20.2		8.01	TO SE	7:1		344	10	10	W	10	Count Time: 1 400
12.5%	20.2		8 03		7.1		381	10	10	10	10	Count Signoff: R
25%	70.2		8.07		7.0		461	10	10	10	10	Old WQ: JPE
50%	20.2		8-11		6.9		626	10	10	10	10	
100%	70.7		8 19		6.9		954	10	(0)	10	10	······
Meter ID:	47		PHOT		D812		Ec04					
Control	20.1	8.01	7.93	\$.7	8.6	278		1010	10	10	10	Date: 8/2/08
6.25%	20.1	等	7.13	8.7	9.0	327	348	10	10	10	10	Sample 119: 20 178
12.5%	20.1	8.00	747	8.7	89	369	383	10	10	10	10	Test Solution Prep:
25%	70.1	7.94	7.92	8.9	84	456	469	10	10	10	10	Nen WQ: JUR
50%	20.1	7.46	4.01	9.3	8.8	620	674	10	18	10	10	Renewal Time: //55
100%	20.1	7.76	Po.v	9.9	9.7	941	968	10	10	10	10	Renewal Signoff: )PC
Meter ID:	55	HHa	0403	0010	0017	605	EZOS	URE (		911-17		Old WO
Control	20.2	1	7.94		8.4		304	10	ID	10	10	Date: 8/ 1/ D &
6.25%	2012		7.97		8.4		320	10	10	10	9	Count Time:
12.5%	20.2		7.97		8.7		369	10	10	10	10	Count Signol
25%	20-2		8.01		8.4		157	10	10	10	10	Old WQ: SL
50%	20,2		8.08		8.4	*	625	10	10	10	10	
100%	20.2		6.17		8.3	V=3,05	961	10	10	10	10	
Meter ID:	55		0403		0012		E(O 4					
Control	20.2		Q 14		8.5		295	10	10	10	10	Date: 814108
6.25%	242		8.05		87		338	(0)	10	10	9	Termination Time:
12.5%	20.2		8.04		8.7		379	10	10	10	10	Termination Signoff:
25%	20.3		8.04		8.6		468	10	10	10	10	Old WQ: AS
50%	20/3	7 72.7	8.08		8.8		643	10	10	16	16	42
100%	20.7	1 10 20 2	8.15		84		985	10	10	10	10	
Meter ID:	45		0 H II		DOIN		Ec04	-, -	,,,,,			

## **CETIS Summary Report**

Report Date:

04 Sep-08 17:58 (p 1 of 1)

Test Code: 06-1604-4052/29475

Acute Fish Su	rvival Test									Pacif	ic EcoRis
Test Run No:	05-5632-5617		est Type:	Survival (96h)				•	John Jirasritumr	•	
Start Date:	01 Aug-08 14:30		rotocol:	EPA/821/R-02	, ,				_aboratory Wate	er	
Ending Date:	05 Aug-08 13:20		pecies:	Pimephales pi			_		Not Applicable		
Duration:	95h	S	ource:	Aquatic Biosys	stems, CO		A	ge:	3 		
Sample No:	18-1077-8026	С	ode:	SJRDS-004			С	lient:	JRS		
	31 Jul-08 09:10	N	laterial:	Ambient Water	r		P	roject:	13489		
Receive Date:	31 Jul-08 12:04	S	ource:	URS							
Sample Age:	29h (15.6 °C)	S	tation:	SJRDS							
Comparison S	Summary			_							
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Metho			
10-5325-5878	96h Survival Rat	е	100	>100	N/A	5.6%	1	Steel	Many-One Rank	Test	
Point Estimat	e Summary										_
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth			
11-4803-0095	96h Survival Rat	e	EC2.	7.7	N/A	N/A	13	Linea	Regression (M	LE)	
			EC10	2.55	N/A	N/A	39.2				
			EC15		N/A	N/A	58.3				
			EC20		N/A	N/A	80.1				
			EC25		N/A	N/A	105				
			EC40		N/A	N/A	208				
			EC50	0.318	N/A	N/A	315				
96h Survival	Rate Summary										
Conc-%	Control Type	Count	Mear	95% LC	95% UCL		Max	Std E		CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.009		5.13%	2.5%
12.5		4	0.975	0.956	0.994	0.9	1	0.009		5.13%	2.5%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	11	11	1	1	1	0	0	0.0%	0.0%
96h Survival	Rate Detail										
Сопс-%	Control Type	Rep 1	Rep		Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	0.9						
12.5		0.9	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

## **CETIS Analytical Report**

Report Date:

04 Sep-08 17:57 (p 1 of 2)

Test Code: 06-1604-4052/29475

							1631	ooue.		00 1007	7002/207/
Acute Fish S	urvival Test							-		Pacif	ic EcoRis
Analysis No:	10-5325-5878	Enc	ipoint: 96h	Survival Ra	ite		CETI	S Version:	CETISv1.	6.5	
Analyzed:	04 Sep-08 17:			parametric-		restments		ial Results:	Yes	0.0	
Allalyzeu.		77 Alle	11y515. 1101	iparametric		Teatments		iai Nesuits.	165		
Data Transfo	rm	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corr	ected)		C > T	Not Run		100	>100	N/A	1	5.6%	
Steel Many-C	ne Rank Test										
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		16	10	1	0.6100	Non-Signi	ficant Effect			
	12.5		16	10	1	0.6100	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	e										
Source	Sum Squ	ares	Mean Squ	ıare	DF	F Stat	P-Value	Decision(5	5%)		
Between	0.008853	11	0.0017706	522	5	8.0	0.5640	Non-Signifi	cant Effect		
Error	0.039839		0.0022132	278	18						
Total	0.048692	1062693	0.0039838	9971815	23						
ANOVA Assu	ımptions										
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equality	y of Variance	0.8	4.25	0.5640	Equal Var	iances	-	, -	
Distribution	Shapiro-	Wilk Norma	lity	0.615		0.0000	Non-norm	al Distributio	n		
96h Survival	Rate Summary										
Сопс-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
12.5		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
Angular (Co	rrected) Transfo	med Sum	mary								
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.41	1.41	1.41	1.41	1,41	0	0	0.0%	0.0%
6.25		4	1.37	1,34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
12.5		4	1.37	1.34	1.4	1,25	1.41	0.0151	0.0815	5.94%	2.89%
		4	1.41	1.41	1.41	1.41	1.41	0.0151	0.0015	0.0%	0.0%
25		-						-	-		
50 100		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%

#### **CETIS Analytical Report**

0 1-

8.25

12.5

Conc-%

Report Date:

-1.0

04 Sep-08 17:57 (p 2 of 2)

Test Code: 06-1604-4052/29475

2.0

0.5

6.5

2.0

Acute Fish Survival Test Pacific EcoRisk Analysis No: 10-5325-5878 Endpoint: 96h Survival Rate **CETIS Version: CETISv1.6.5** Nonparametric-Control vs Treatments Analyzed: 04 Sep-08 17:57 Analysis: Official Results: Yes Graphics 0.05 0.9 0.8-98h Survival Rate Cent. Angle

04 Sep-08 17:58 (p 1 of 2) 06-1604-4052/29475

Acute Fish Survival Test

Analysis No: 11-4803-0095 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:57 Analysis: Linear Regression (MLE) Official Results: Yes

	Regression	Options			0.0	<b>-</b> 1	0.00.00.00	014		186-1-6-6-	-f	
	Function	1 + D*log(V)1		Threshold Control Th	•	0 hreshold	Optimized Yes	No	Het Corr No	Weighte Yes	α	
_og-No	rmal [NED=/	4+B*log(X)]		Control In	resnoia	<u> </u>	res	INO	NO			
Regres	sion Summ	агу										
lters	LL	AICc	Mu	Sigma	G Stat	Chi-Sq	Critical	P-Value	Decision	· ·		
9	-9.81	24.3	-3.03	-0.706	2.26	9.52	28.9	0.9470	Non-Sign	ificant Hete	rogeneity	
Point E	stimates											
Level	Conc-%	95% LCL	95% UCL		TU	95% LCL	95% UCL					
EC2.5	7.7	N/A	N/A		13	N/A	N/A					
EC10	2.55	N/A	N/A		39.2	N/A	N/A					
EC15	1.71	N/A	N/A		58.3	N/A	N/A					
EC20	1.25	N/A	N/A		80.1	N/A	N/A					
EC25	0.952	N/A	N/A		105	N/A	N/A					
EC40	0.48	N/A	N/A		208	N/A	N/A					
EC50	0.318	N/A	N/A		315	N/A	N/A					
	-	_										
Regres	ssion Param	eters										
_		eters Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(	5%)			
Param			Std Error	95% LCL -3.55	95% UCL 0.714	t Stat	<b>P-Value</b> 0.2090		5%) ficant Para	meter		
Param Slope	eter	Estimate						Non-Signi				
Param Slope Interce	eter	-1.42 4.3	1.09	-3.55	0.714	-1.3	0.2090	Non-Signi	ficant Para			
Param Slope Interce	eter pt ual Analysis	-1.42 4.3	1.09	-3.55	0.714	-1.3 3.86	0.2090	Non-Signi	ficant Para t Paramete			
Param Slope Interce Residu	eter pt ual Analysis ute	-1.42 4.3 Method	1.09	-3.55 2.12	0.714 6.47	-1.3 3.86	0.2090 0.0011	Non-Signii Significant	ficant Parant Parante Paramete			
Param Slope Interce Residu Attribu	eter pt ual Analysis ute ces	Estimate -1.42 4.3  Method  Mod Lever	1,09 1.11	-3.55 2.12 of Variance	0.714 6.47 Test Stat	-1.3 3.86 Critical	0.2090 0.0011 P-Value	Non-Significant Significant  Decision( Equal Var	ficant Parant Parante Paramete	ſ		
Param Slope Interce Residu Attribu Variand Distribu	eter pt ual Analysis ute ces	Estimate -1.42 4.3  Method  Mod Lever Shapiro-W	1.09 1.11	-3.55 2.12 of Variance	0.714 6.47 Test Stat 0.779	-1.3 3.86 <b>Critical</b> 3.06	0.2090 0.0011 P-Value 0.5560	Non-Significant Significant Decision( Equal Var Non-norm	ficant Parar t Paramete 5%) iances	ſ		
Param Slope Interce Residu Attribu Variand Distribu	pt  ual Analysis  ite  ces  ution  urvival Rate	Estimate -1.42 4.3  Method  Mod Lever Shapiro-W	1.09 1.11	-3.55 2.12 of Variance	0.714 6.47 Test Stat 0.779	-1.3 3.86 <b>Critical</b> 3.06	0.2090 0.0011 P-Value 0.5560 0.0000	Non-Significant Significant Decision( Equal Var Non-norm	ficant Paranete t Paramete 5%) iances al Distribut	ſ	- A	В
Param Slope Interce Residu Attribu Variand Distribu 96h Su Conc-	pt  ual Analysis  ite  ces  ution  urvival Rate	Estimate -1.42 4.3  Method Mod Lever Shapiro-W Summary rol Type	1.09 1.11 ne Equality of	-3.55 2.12 of Variance	0.714 6.47 Test Stat 0.779 0.591	-1.3 3.86 Critical 3.06	0.2090 0.0011 P-Value 0.5560 0.0000	Non-Significant Significant Decision( Equal Var Non-norm	ficant Paranete t Paramete 5%) iances al Distribut	ion	- A 40	B 40
Param Slope Interce Residu Attribu Variand Distribu 96h Su Conc-5 0 6.25	pt  ual Analysis  te  ces  ution  urvival Rate  % Conti	Estimate -1.42 4.3  Method Mod Lever Shapiro-W Summary rol Type	1.09 1.11 ne Equality of filk Normality Count	-3.55 2.12 of Variance y	0.714 6.47 Test Stat 0.779 0.591	-1.3 3.86 Critical 3.06	0.2090 0.0011 P-Value 0.5560 0.0000 lated Variat	Non-Significant Significant Decision( Equal Var Non-norm te(A/B) Std Dev	ficant Paranete t Paramete 5%) iances al Distribut	ion Diff%		
Param Slope Interce Residu Attribu Variand Distribu 96h Su Conc-5 0 6.25 12.5	pt  ual Analysis  te  ces  ution  urvival Rate  % Conti	Estimate -1.42 4.3  Method Mod Lever Shapiro-W Summary rol Type	1.09 1.11 ne Equality of filk Normality Count	-3.55 2.12 of Variance y	0.714 6.47 Test Stat 0.779 0.591 Min	-1.3 3.86 Critical 3.06 Calcu	0.2090 0.0011 P-Value 0.5560 0.0000 lated Variat Std Err 0	Decision( Equal Var Non-norm te(A/B) Std Dev 0 0.05	5%) iances al Distribut  CV% 0.0% 5.13% 5.13%	Diff% 0.0% 2.5%	40	40
Param Slope Interce Residu Attribu Variand Distribu 96h St. Conc-5 0 6.25 12.5 25	pt  ual Analysis  te  ces  ution  urvival Rate  % Conti	Estimate -1.42 4.3  Method Mod Lever Shapiro-W Summary rol Type	1.09 1.11  ne Equality of the initial of the initia	-3.55 2.12 of Variance y Mean 1 0.975 0.975	0.714 6.47 Test Stat 0.779 0.591 Min 1 0.9 0.9	-1.3 3.86 Critical 3.06 Calcu Max 1 1	0.2090 0.0011 P-Value 0.5560 0.0000 lated Variat Std Err 0 0.00913 0.00913 0	Decision( Equal Var Non-norm te(A/B) Std Dev 0 0.05 0.05	ficant Paramete  5%) iances al Distributi  CV% 0.0% 5.13% 5.13% 0.0%	Diff% 0.0% 2.5% 0.0%	40 39 39 40	40 40 40 40
Param Slope Interce Residu Attribu Variand Distribu 96h Su Conc-5 0 6.25 12.5	pt  ual Analysis  te  ces  ution  urvival Rate  % Conti	Estimate -1.42 4.3  Method Mod Lever Shapiro-W Summary rol Type	1.09 1.11  ne Equality of filk Normality  Count 4 4 4	-3.55 2.12 of Variance y Mean 1 0.975 0.975	0.714 6.47 Test Stat 0.779 0.591 Min 1 0.9 0.9	-1.3 3.86 Critical 3.06 Calcu Max 1 1	0.2090 0.0011 P-Value 0.5560 0.0000 lated Variat Std Err 0 0.00913 0.00913	Decision( Equal Var Non-norm te(A/B) Std Dev 0 0.05	5%) iances al Distribut  CV% 0.0% 5.13% 5.13%	Diff% 0.0% 2.5%	40 39 39	40 40 40

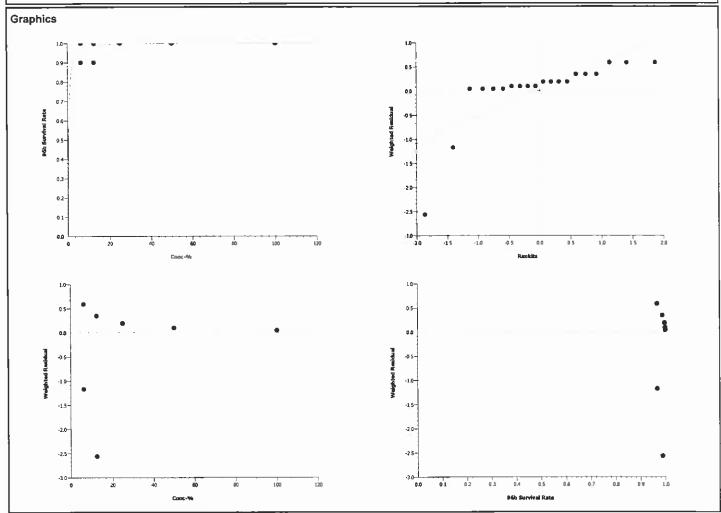
96h Surviv	96h Survival Rate Detail										
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	0.9						
12.5		0.9	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

04 Sep-08 17:58 (p 2 of 2)

06-1604-4052/29475

Acute Fish Survival Test

Analysis No: 11-4803-0095 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:57 Analysis: Linear Regression (MLE) Official Results: Yes



#### 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #: 4051 Age: 22Au 3	
-   Test Material	SJRDS-004-TOX	Organism Supplier: Ab5	
Test ID#:	29475 Project # 13489	Control/Diluent: EPAMH	
Test Date:	8   1   08 Randomization: 4.4.8	Control Water Batch: 1125	
Feeding To	Time: 260 Initials: QD	Feeding T46-br Time: 400 Initials 100	

	Temp	р	Н	D.O.	mg/L)	Canductivi	tv (aS/cm)		# Live O	rganisms		SIGN-OFF
Treatment	(°C)	new	old	new	old	new	old	Rep A	Rep B	Rep C	Rep D	SIGN-OFF
Control	20.2	8-07		8.6		282		10	10	10	10	Date: 8 1 08
6.25%	20.3	8.12		8.6		325		10	10	10	10	Sample ID: 20195
12.5%	20.3	8.15		8.7		368		10	10	10	10	Test Solution Prep:
25%	20.3	8-16	- 8 - 2	8.7		454		10	10	10	10	New WQ: AT
50%	2013	8.10		8.8		633		10	10	10	10	Initiation Time: \430
100%	20.3	8.03		87		973		10	10	10	10	Initiation Sign-off:
Meter ID:	47	pho4		0010		FLOS						
Control	20.0	N.	27.76		7,9		288	10	10	10	10	Date: 8/2/08
6.25%	20.0		7.76	455	7.6		335	10	/0	10	10	Count Time: // 45
12.5%	20.0		7.76		7.6		378	10	10	10	10	Count Signoll:
25%	20.0		7.84		7.7	and the last	469	10	10	10	10	OH WQ: JLR
50%	20.0		7.87		74		646	10	10	10	10	
100%	20.0		8.01		7.5		1180	10	10	10	10	
Meter ID:	55		0 111		0010		ELOS					
Control	20.2	8.32	1.83	8.8	8.5	278	350	10	10	۵۱	10	Date: 8/3/00
6.25%	20.2	8-30	7.83	8.8	8.6	324	410	10	10	10	10	Sample ID: 20195
12.5%	20.2	8.27	7.89	88	8.5	373	440	10	10	10	10	Test Solution Prep: Qp
25%	20,2	8.21	1,14	89	8.7	459	505	10	10	10	10	New WQ: 15
50%	20,2	8.15	+ 96	9.0	8.5	632	718	10	10	10	10	Renewal Tone
100%	20.2	8.05	841.	9.2	814	973	1190	10	10	10	10	Renewal Signal:
Meter ID:	47		109	0100	Asolu	2003	E605				50.	Old W.O. HT-1
Control	201		1 8.70		8.7		290	10	10	10	10	Date: 8/4/08
6.25%	20.1		8.11	7	8.4	730.00	342	10	10	10	9	Count Time: 0 930
12.5%	20.1		8.08		84		384	10	10	10	10	Count Signoff:
25%	20.1		RR 8.07		P.4		473	10	10	10	10	Old WQ: HTA
50%	20-1		823		8.9		625	10	10	10	10	
100%	20.1		8-15		8.4		995	10	V	10	10	
Meter ID:	47		1409		POLO	N2 1	5005					
Control	20,4		7.52		8.4	or Filler	293	10	10	W	10	Date: 8/5/08
6.25%	20.4		7.62		8.1		325	10	10	10	9	Termination Time:
12.5%	20,4		7.69		8-2	W.	38/	9	10	10	10	Termination Time; Termination Signoil:
25%	20,4	120	7.79		8.2		465	10	10	10	10	Old WQ:
50%	20.4	-1	7-4/		8.3	V	648	10	10	10	10	
100%	2014		8.04		8.2		1022	10	10	10	16	
Meter ID:	47		DHI	Avecal	D 0/4	15 75	PC01					

## **Appendix E**

Test Data and Summary of Statistics for the Evaluation of the Acute Toxicity of the San Joaquin River Recirculation Study Sediment to *Hyalella azteca* 

## **CETIS Summary Report**

Report Date: Test Code: 04 Sep-08 17:51 (p 1 of 1)

t Date.	04 0cp-00 11.51 (p 1 01 1)
Code:	16-6630-2766/29476

Hyalella 10-d S	Survival and Gro	wth Sedi	ment Te	st								Pacif	fic EcoRisk
Test Run No: Start Date: Ending Date: Duration:	00-8489-3177 01 Aug-08 11 Aug-08 10d Oh	Pro Spe	st Type: etocol: ecies: urce:	EPA Hyal	rival ./600/R-99/0 lella azteca atic Biosyst	, ,	-		Analyst Diluent: Brine: Age:	: Нуа	n Jirasritumr lella water Applicable	ong	
Sample No: Sample Date: Receive Date: Sample Age:		So	de: terial: urce: tion:			)X			Client: Project:	UR: : 134	-		
Comparison S Analysis No 16-1016-8635	ummary Endpoint Survival Rate		NOEL	-	<b>LOEL</b> >100	TOEL N/A	PMSD 5.34%	TU 1		lethod Vilcoxon	Rank Sum 1	「wo-Sampl	e Test
Survival Rate	Summary Control Type	Count	Mean		95% LCL	95% UCL	Min	Max	, ,	itd Err	Std Dev	CV%	Diff%
	Lab Water	8 8	0.963 0.975		0.935 0.958	0.99 0.992	0.8	1	0	.0136 .00845	0.0744 0.0463	7.73% 4.75%	0.0% -1.3%
Survival Rate	Detail												
	Control Type Lab Water	Rep 1 1 0.9	Rep 2 0.9 1	2	Rep 3 0.8 0.9	Rep 4 1 1	Rep <b>5</b> 1	Rep 1 1	0 6 R 1 1	tep 7	Rep <b>8</b> 1 1		

Report Date:

04 Sep-08 17:51 (p 1 of 1)

Test Code: 16-6630-2766/29476

							Test	Code:		16-6630	-2766/2947
iyalella 10-d	Survival and G	rowth Sedi	ment Test							Paci	fic EcoRis
Analysis No: Analyzed:	16-1016-8635 04 Sep-08 17:		•	urvival Rate onparametric-	Two Sample	· · · · · ·		S Version: ial Results		6.5	
Data Transfo	rm	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corr			C > T	Not Run		100	>100	N/A	1	5.34%	
Nilcoxon Ra	nk Sum Two-Sa	mple Test						_	<del>-</del>		
Control	vs Conc-%	•	Test Stat	t Critical	Ties	P-Value	Decision(	5%)			
ab Water	100		69		2	0.5200		ficant Effect	t		
ANOVA Table	<del></del>										
Source	Sum Squ	iares	Mean So	ıuare	DF	F Stat	P-Value	Decision	(5%)		
Between	0.001258		0.001258		1	0.133	0.7200		ificant Effect		
Error	0.131983	4	0.009427	388	14						
<b>Fotal</b>	0.133241	86753016	0.010685	81163418	15						
ANOVA Assu	ımptions										
Attribute	Test			Test Stat	Critical	P-Value	Decision	1%)			
Variance Ratio F				2.31	8.89	0.2910	Equal Var	_·			
Distribution				0.66		0.0001	Non-norm	-normal Distribution			
Survival Rate	e Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
)	Lab Water	8	0.963	0.934	0.991	8.0	1	0.0138	0.0744	7.73%	0.0%
100		8	0.975	0.957	0.993	0.9	1	0.0086	0.0463	4.75%	-1.3%
Angular (Cor	rected) Transfo	rmed Sum	mary	_							
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
כ	Lab Water	8	1.35	1.31	1.4	1.11	1.41	0.0213	0.115	8.48%	0.0%
100		8	1.37	1.34	1.4	1.25	1.41	0.014	0.0754	5.5%	-1.31%
Graphics											
1.0						0 10 7					
0 9-	•	_									
0.8-	į	1				0.05		• • • • •	• • • • •	•	
0.5-						0.00					
0.7-					Ţ	Ę.					
0.6						Corr. Angle					
0.5~					_	•					
0.4-						-0 10-		•			
}							• •				
0.3-						-0.15					
0.2-											

0.0

0.1-

100

## 10-Day Freshwater Sediment Toxicity Test Data

Client: URS: DMC Project #: 13489 Organism Log Number: 4035

Species: Hyalella azteca Test ID#: 29476 Organism Age/Size: 13 d.o.

	1	Т	0	ntwo!			
Day	Date	Temp.		ntrol	NW05- S		Sign-off:
_		(°C)	D.O. (Old)	D.O. (New)	D.O. (Old)	D.O. (New)	
	ا مہ رہ ا	22.4		8.6		8.3	AM Change: MJR
0	8.1.08	12.3	A 10 B 10	c 10 <sup>D</sup> 10	10 10	c 10 D 10	Initiation Counts:
	14 15	m 1 10	E 10 F 10	G 10 H 10	E 10 F 10	G 10 H 10	7070
	Meter ID	-5A 13		Doi			Confirmation Counts
	8-2-08	40 7	6.8	8.0	6.3	7.8	AM Change:
1	0200	22.7	A O B O	<u> </u>		C O D O	WQ: OAP
			E O F O		E Ø F Ø	G O H O	PM Change: Yu
	Meter ID	13	0014	0014			Mortality Counts:
1	0 0 62		7.0	8.1	6.7	7.7	AM Change: AS
2	8-3-08	21.6	A O B O	CODO	A O B O	C 0 D 0	wq: ks,
<u> </u>			E O F O	G O H O	E o F d	G G H	PM Change:
1	Meter ID	13	0000	00.00			Mortality Counts: AS
			7.8	8.0	7.3	7.7	AM Change
3	9 44105	22.1	A C B C	C O DO	AIBO	000	WQ: Ku
	, , ,		EOFO	G O H O	E O F 6	G P H D	PM Change
	Meter ID	13	0014	D014			Mortality Counts:
	, ,		6.9	7.9	6-4	7.5	AM Charlge:
4	8 5/81	22.2	A O B O	CODO	A 10 B 6	CODO	WQ: 4
			F 10	G o H o	E O F 6	G D H O	PM Change:
	Meter ID	[ 8	Dro 12	D512			Mortality Counts: 4
			7.1	5.3	7.2	7.5	AM Change: 48
5	8-6-08	226	A O B O	C D O	A O B O	CODO	WQ: Yu
	0-0-00	2~0	E O F O	G O H D	E 0 F 0	G 70 H 45	PM Change: 🗸
	Meter ID	18	00 14	0014			Mortality Counts:
			6.5	7.4	5.0	7.0	AM Change
6	Blake	22.8	ADBO	CODO	A O B O	CODO	WQ: DAP
	8/7/08	00.0	E Ø F Ø	G O H O		G O H O	PM Change: 6
	Meter ID	13	D014	DOIY			Mortality Counts:
		-7.5		5-2	7.2	6.5	AM Change: YK
7	3-8-08	205	6.6' A Ø B Ø	C O D O	A O B 6	CoDo	WQ: 44
'	" " "	22.5	E O F O	G () H ()	E 0 F 0	G 10 11 2	PM Change:
	Meter ID	13	PO 14	0014			Mortality Counts; 74
			7.1	8-1	F 3	7/	AM Change:
8	0 9 20	22 6	A B	C O D O	A O B O	C O D O	WQ: DAP
	8-9-08	49,3	F . F	<u>C</u> 11	E O F O	G O HO	PM Change:
	Meter ID	13	D0/2	0 0	0	0 0	Mortality Counts:
	IAICIGI II)	15		Bors	<i>C L</i>	~ .	AM Change
9	9 10-M	23.6	0.0 A Cl B C	CODO	4 2 -18 x	7.0	WQ:
9	9-10-08	L7.5	E (2) F (3)	G G H G		G A H	PM Change:
	M-4 ID	12	0.0	0 0	0.0	- () - ()	Mortality Centris:
	Meter ID	13	100				
1.0	20	1	4 70 -	Replicate		Replicate	Termination Counts:
10	8-11-08	22.6	10 /	C 8 D 10	A 9 B 10	c 9 D/O	M
			E 10 F 10	G 10 H 19	10 10	G / D H / O	
	Meter ID	13					

## Freshwater Sediment Test Water Quality Characteristics

Chefft:	URS: DMC	Species:	Hyallela azteca
			<del></del>
Initial Water	er Quality Characteristics for Overlying	Water	Date: 8:1-ng

Site	рН	D.O. (mg/L)	Conductivity (µS/cm)	Alkalinity	Hardness	Total Ammonia	Test ID #
Control	8.08	8.6	ME 10 160	159	117	<1.0	
NWDS-SED-TOX	8.05	6.3	MB772943	168	136	41.0/	29476
Meter ID	PHO9	D014	EC 65	_	_	_	
Sign-off	AJK	AJR	AJR	AJR	AJR	AJR	

## Final Water Quality Characteristics for Overlying Water

Date:	8-11-08
otal	

Site	рН	D.O. (mg/L)	Conductivity (µS/cm)	Alkalinity	Hardness	Total Ammonia	
Control	8.30	4.7	478	166	112	v 41.0	
NWBS-SED-TOX	8-08	6-9	418	v 112	, 150	~ 1,35°	
Meter ID	PHOG	D014	Ec05		-	_	
Sign-off	YIC	Yu	YK	m	m	un	

# **Appendix F**

Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the Selenastrum capricornutum

Report Date:

06 Aug-08 12:12 (p 1 of 1)

Test Code:

07-1174-2222/29346

							100	ot Code.			01-111-4	LLEE/200
Selenastrum (	Growth Test										Pacif	ic EcoRis
Test Run No: Start Date: Ending Date: Duration:	12-3144-0051 22 Jul-08 15:40 26 Jul-08 15:30 96h	Test Proto Spec Sour	ocol: ies:	Cell Growth EPA/821/R-02 Selenastrum c In-House Cultu	apricornutum		Dil	alyst: uent: ine: e:	Labo	Jirasritumre ratory Wate Applicable	•	
									Dafa	Taula		
Sample No:	19-4822-9422	Code	-	13479 Sodium chloric	1			ent: oject:	1347	rence Toxic	ant	
-	22 Jul-08 15:40 22 Jul-08 15:40	Mate Sour	—	Reference Tox			FIG	oject.	1347	3		
		Stati		In House								
Sample Age:	14/7 (25 C)	- Jtati	011.					<del></del>				
Comparison S	Summary											
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth				
14-1284-1890	Cell Density		0.5	1	0.707	5.28%		Steel	Many	y-One Rank	Test	
Point Estimat	e Summary											
Analysis No	Endpoint		Level	Conc-g/l	95% LCL	95% UCL	TU	Meth	od			
15-1365-5885	Cell Density		IC2.5	0.144	0.0686	0.421		Linea	ır Inte	rpolation (IC	CPIN)	
			IC5	0.287	0.137	0.673						
			IC10	0.538	0.296	0.721						
			IC15	0.686	0.502	0.858						
			IC20	0.834	0.662	0.988						
			IC25	0.982	0.803	1.19						
			IC40	1.63	1.43	1.88						
			IC50	2.06	1.85	2.29	-					
Cell Density S	Summary											
Conc-g/L	Control Type	Count	Mean	95% LCI	95% UCL	Min	Max	Std I	Err	Std Dev	CV%	DIff%
0	Lab Water	4	2.87E	+6 2.82E+6	2.92E+6	2.76E+6	3.04E+	6 2.261	E+4	1.24E+5	4.31%	0.0%
0.5		4	2.62E	+6 2.58E+6	2.66E+6	2.54E+6	2.79E+	6 2.091	E+4	1.15E+5	4.37%	8.71%
1		4	2.14E	+6 2.10E+6	2.17E+6	2.03E+6	2.23E+	6 1,561	E+4	8.54E+4	4.0%	25.6%
2		4	1.48E	+6 1.44E+6	1.52E+6	1.33E+6	1.58E+	6 1.97	E+4	1.08E+5	7.32%	48.5%
4		4	1.19E	+5 1.17E+5	1,21E+5	1.10E+5	1.23E+	5 1.11	E+3	6.06E+3	5.09%	95.9%
8		4	4.65E	+4 4.29E+4	5.01E+4	3.70E+4	6.00E+	4 1.77	E+3	9.68E+3	20.8%	98.4%
Cell Density (	Detail											
Conc-g/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4							
0	Lab Water	2.76E+6	3.04E	+6 2.88E+6	2.80E+6							
0.5		2.57E+6	2.54E	+6 2.58E+6	2.79E+6							
1		2.23E+6	2.03E	+6 2.11E+6	2.17E+6							
2		1.33E+6	1.58E	+6 1.53E+6	1.47E+6							
2			1.58E 1.22E									

Report Date:

06 Aug-08 12:12 (p 1 of 1)

Pacific EcoRisk

07-1174-2222/29346

Selenastrum Growth Test

**Test Code:** 

Analysis No: 14-1284-1890 Endpoint: Cell Density

Alt Hyp

C > T

**CETIS Version:** CETISv1.6.5

Analyzed:	06 Aug-08 12:11
Alluly Lou.	

Data Transform

Untransformed

Analysis:

Zeta

Nonparametric-Control vs Treatments

**Monte Carlo** 

Not Run

Official Results: Yes

0.707

TU **PMSD** LOEL TOEL 5.28%

Stool	Many-	One	Dank	Toct

10000 1110111							
Control	VS	Conc-g/L	Test Stat	Critical	Ties	P-Value	Decision(5%)
Lab Water		0.5	11	10	0	0.0805	Non-Significant Effect
Į		1*	10	10	0	0.0417	Significant Effect
		2*	10	10	0	0.0417	Significant Effect
		4*	10	10	0	0.0417	Significant Effect
		8*	10	10	0	0.0417	Significant Effect

NOEL

1

0.5

#### **ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	3.017153E+13	6.034307E+12	5	761	0.0000	Significant Effect
Error	1,42766E+11	7931444000	18			
Total	3.0314300981E+13	6.042238336E+12	23			

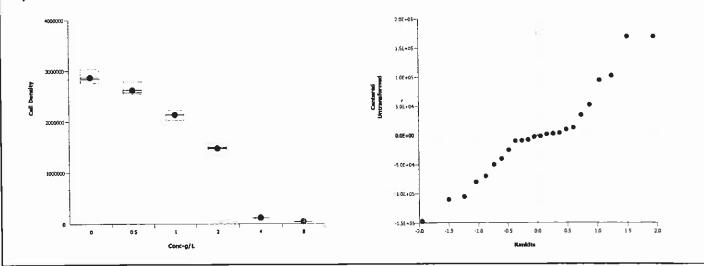
#### **ANOVA Assumptions**

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	22.2	15.1	0.0005	Unequal Variances
Distribution	Shapiro-Wilk Normality	0.945		0.2090	Normal Distribution

# Cell Density Summary

Conc-g/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.87E+6	2.82E+6	2.92E+6	2.76E+6	3.04E+6	2.30E+4	1,24E+5	4.31%	0.0%
0.5		4	2.62E+6	2.58E+6	2.66E+6	2.54E+6	2.79E+6	2.13E+4	1.15E+5	4.37%	8.71%
1		4	2.14E+6	2.10E+6	2.17E+6	2.03E+6	2.23E+6	1.59E+4	8.54E+4	4.0%	25.6%
2		4	1.48E+6	1.44E+6	1.52E+6	1.33E+6	1.58E+6	2.01E+4	1.08E+5	7.32%	48.5%
4		4	1.19E+5	1.17E+5	1.21E+5	1.10E+5	1.23E+5	1.12E+3	6.06E+3	5.09%	95.9%
8		4	4.65E+4	4.28E+4	5.02E+4	3.70E+4	6.00E+4	1.80E+3	9.68E+3	20.8%	98.4%





## **CETIS Analytical Report**

Selenastrum Growth Test

Report Date:

06 Aug-08 12:12 (p 1 of 1)

07-1174-2222/29346 **Test Code:** 

Pacific EcoRisk

CETISv1.6.5 CETIS Version: Endpoint: Cell Density

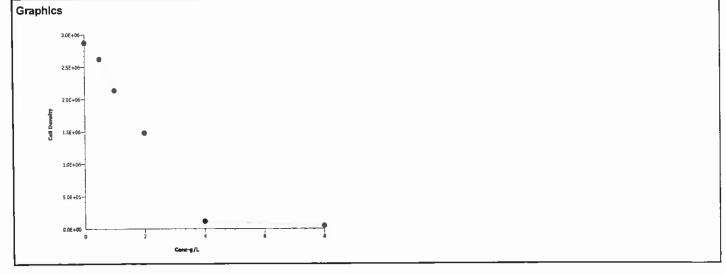
Analysis No: 15-1365-5885 06 Aug-08 12:11 Analysis: Linear Interpolation (ICPIN) Official Results: Yes Analyzed:

Linear Interpolation Options											
	X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method					
	Linear	Linear	7607236	280	Yes	Two-Point Interpolation					

Point Estimates           Level         Conc-g/L         95% LCL         95% UCL           IC2.5         0.144         0.0686         0.421	
IC2.5 0.144 0.0686 0.421	
IC5 0.287 0.137 0.673	
IC10 0.538 0.296 0.721	
IC15 0.686 0.502 0.858	
IC20 0.834 0.662 0.988	
IC25 0.982 0.803 1.19	
IC40 1.63 1.43 1.88	
1C50 2.06 1.85 2.29	

Cell Densit	y Summary			Calculated Variate							
Conc-g/L	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%		
0	Lab Water	4	2.87E+6	2.76E+6	3.04E+6	2.26E+4	1.24E+5	4.31%	0.0%		
0.5		4	2.62E+6	2.54E+6	2.79E+6	2.09E+4	1.15E+5	4.37%	8.71%		
1		4	2.14E+6	2.03E+6	2.23E+6	1.56E+4	8.54E+4	4.0%	25.6%		
2		4	1.48E+6	1.33E+6	1.58E+6	1.97E+4	1.08E+5	7.32%	48.5%		
4		4	1.19E+5	1,10E+5	1.23E+5	1.11E+3	6.06E+3	5.09%	95.9%		
8		4	4.65E+4	3.70E+4	6.00E+4	1.77E+3	9.68E+3	20.8%	98.4%		

Cell Densit	cell Density Detail											
Conc-g/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4							
0	Lab Water	2.76E+6	3.04E+6	2.88E+6	2.80E+6							
0.5		2.57E+6	2.54E+6	2.58E+6	2.79E+6							
1		2.23E+6	2.03E+6	2.11E+6	2.17E+6							
2		1.33E+6	1.58E+6	1.53E+6	1.47E+6							
4		1.23E+5	1.22E+5	1.21E+5	1.10E+5							
8		3.70E+4	6.00E+4	4.40E+4	4.50E+4							



# Selenastrum capricornutum Cell Density Enumeration Data

 Client:
 Reference Toxicant
 Initial Count:
 O 00 cells al.

 Test Material:
 NaCl
 Enumerating Scientist:
 SH

 Test Start Date:
 7/22/07
 Start Time:
 1540
 Test ID #:
 29346

 Test End Date:
 7/24/06
 End Time:
 1530
 Project #:
 13479

Treatment	Rep A	<b>Rep B</b>	Rep C	Rep D	Mean
Lab Water Control (W/EDTA)	2.74	3.04	2.88	2.80	2-87
0.5	2.57	2.54	2.58	2.79	2.42
1	2.23	2.03	2.11	2.17	2.14
2	1.33	1.58	1.53	1.47	1.48
4	0.123	0.122	0.121	0.11	0.119
8	0.037	0.06	०. ०५५	0-045	0.047
This datasheet has been reviewed for completeness and	Control Mean Density (cells/mL x 10 <sup>4</sup> )	% CV	Date:	Time:	Signoff:
consistency with Test Acceptability Criteria and/or other issues of concern.	2.87	भ.3।	7/24/08	17:28	m

## Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: Reference Toxicant Test ID #: 29346 Test Date: 7/22/08

Test Material: NaCl Project #: 13479 Control/Diluent: Algal Medium-w/ EDTA

Test Material:	NaCl		Project #: 134	+/ <del>/</del> Contro	ol/Diluent: Algal Medium-w/ EDT
Reference Toxicant Test Treatment (g/L NaCl)	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	25.1	7.49	6.7	96	Date: 7/22/08
0.5	25.1	7.38	6.8	1174	Test Solution Prep: M2
1	25.1	7.37	6.9	22/3	New WQ: AJR
2	25.1	7.32	6.9	3,990	Innoculation Time: 1540
4	25.1	7.28	6.8	7.690	Innoculation Signoff Ko
8	25.1	7.20	6.9	14,320	
Meter ID:	6	PHII	2015	Bros	
Lab Water Control	25.0	7.64			Date: 7/23/08
0.5	25.0	7.54			WQ Time: D&35
1	25.0	7.47			WQ Signoff:
2	25.0	7.40			
4	26.0	1.37			
8	25.0	7.29			
Meter ID:	_ b	PO HQ			
Lab Water Control	25.2	8.46			Date: 7/24/08
0.5	25.2	8.36			WQ Time: 1355
1	25.2	8.25			WQ Signoff: Will
2	25.2	8.14			
4	25.2	7.90			
8	25.2	7.70			
Meter ID:	41	PHIL			
Lab Water Control	25.0	9.72			Date: 7/25/08
0.5	25.0	9.46			WQ Time: 0935
1	25.0	9.26			WQ Signoff: HM
2	25.0	9.07			
4	25.0	8.61			
8	25,0	784			
Meter ID:	41	PHOZ			
Lab Water Control	24.8	9.84	11.7	106	Dute: 7/26/08 Termination Time: 1530
0.5	248	9.87	120	1180	Termination Time: 1530
1	24.8	9.70	12.3	2228	Termination Signoff: 500
2	248	9,46	11.3	4000	WQ Time (250
4	24.8	9,01	9,4	7700	WQ Signoff:
8	24.8	8,47	8.0	14370	
Meter ID:	41	PHII	0014	Elos	

Initial Test Conditions								
Target: 16g NaCl in 2 L	Alkalinity	Hardness	Light Intensity (ftc)					
Actual:	V 10	18	394					

# Appendix G

# Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the Ceriodaphnia dubia

02 Aua-08 14:14 (p 1 of 2) 101

Report Date:	02 Aug-08 14:14 (p 1 of
ink/Link Code:	00-1930-8156/291

9-6241-6846 08 Jul-08 17:30 15 Jul-08 14:00 6d 21h 15-4704-5283 08 Jul-08 17:30 08 Jul-08 17:30 N/A (24.2 °C) mmary Endpoint 7d Survival Rate Reproduction Summary Endpoint 7d Survival Rate	Test Type: Protocol: Species: Source: Code: Material: Source: Station:	Reproduction-S EPA/821/R-02- Ceriodaphnia o In-House Cultu 13423 Sodium chlorid Reference Tox In House  NOEL 1500 500	-013 (2002) dubia ire	TOEL 1730	Anal Dilue Brin Age: Clier Proje	ent: Late: No 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ce McElroy coratory Wat t Applicable cific Ecorisk 423		
D8 Jul-08 17:30 D8 Jul-08 17:3	Material: Source:	Sodium chlorid Reference Tox In House NOEL 1500	LOEL 2000	1730	Proje PMSD	Method	423		
Endpoint 7d Survival Rate Reproduction Summary Endpoint 7d Survival Rate		1500	2000	1730					
Endpoint 7d Survival Rate				707	12.4%		act/Bonferror ny-One Rank		st
Reproduclion		50 2.5 5 10 15 20 25 40	Conc-mg/L 1670 342 435 575 692 808 924 1140 1260	1570 75 150 316 479 631 741 1060	95% UCL 1790 554 608 720 843 985 1040 1200 1330	Spearma		CPIN)	
e Summary									
Control Type C	Count Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
ab Water 1 1 1 1 1	0 1 0 1 0 1 0 0.9	1 1 1 1 0.782	1 1 1 1 1 0	1 1 1 0 0	1 1 1 1 1 0	0 0 0 0 0 0.0577	0 0 0 0 0.316	0.0% 0.0% 0.0% 0.0% 35.1%	0.0% 0.0% 0.0% 0.0% 10.0%
Summary				-	-				_
.ab Water 1 1 1 1	0 28.7 10 29 10 26.9 10 20.7	95% LCL 26.7 28.4 26 19.5 7.29	95% UCL 30.7 29.6 27.8 21.9 10.3	Min 16 26 23 16	Max 34 31 31 26 12	0.985 0.272 0.417 0.597 0.739	5.4 1.49 2.28 3.27 4.05	CV% 18.8% 5.14% 8.49% 15.8% 46.0%	Diff% 0.0% -1.05% 6.27% 27.9% 69.3%
- C - C - C - C - C - C - C - C - C - C	e Summary ontrol Type  ab Water  1  1  1  1  1  1  1  1  1  1  1  1  1	e Summary  ontrol Type	5 10 15 20 25 40 50  8 Summary  ontrol Type	5	5 435 150 10 575 316 15 692 479 20 808 631 25 924 741 40 1140 1060 50 1260 1200  Summary  Ontrol Type Count Mean 95% LCL 95% UCL Min 10 1 1 1 1 1 10 1 1 1 1 10 1 1 1 1 10 0.9 0.782 1 0 10 0.9 0.782 1 0 10 0.9 0.782 1 0 10 0 0 0 0  Ourmary  Control Type Count Mean 95% LCL 95% UCL Min 10 28.7 26.7 30.7 16 10 29 28.4 29.6 26 10 26.9 26 27.8 23 10 20.7 19.5 21.9 16 10 8.8 7.29 10.3 0	5 435 150 608 10 575 316 720 15 692 479 843 20 808 631 985 25 924 741 1040 40 1140 1060 1200 50 1260 1200 1330   Summary  Ontrol Type Count Mean 95% LCL 95% UCL Min Max ab Water 10 1 1 1 1 1 1 10 1 1 1 1 1 1 10 0 1 1 1 1	Summary   Summ	Solution   Solution	5 435 150 608 10 575 316 720 15 692 479 843 20 808 631 985 25 924 741 1040 40 1140 1060 1200 50 1260 1200 1330  Summary  Sontrol Type Count Mean 95% LCL 95% UCL Min Max Std Err Std Dev CV% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 1 0 0 0 0.0% 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Report Date: C Link/Link Code:

02 Aug-08 14:14 (p 2 of 2) 00-1930-8156/29101

Ceriodaphnla	7-d Survival ar	d Reprod	uction Test							Paci	fic EcoRis
7d Survival F	Rate Detail			<del></del>	<del>-</del>						
Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Lab Water	1	1	1	1	1	1	1	1	1	1
250		1	1	1	1	1	1	1	1	1	1
500		1	1	1	1	1	1	1	1	1	1
1000		1	1	1	1	1	1	1	1	1	1
1500		1	1	1	1	1	1	1	1	1	0
2000		0	0	0	0	0	0	0	0	0	0
Reproductio	n Detail										
Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Lab Water	34	16	32	32	32	29	30	28	31	23
250		29	30	29	30	31	26	27	29	30	29
500		27	27	30	23	26	27	26	27	25	31
1000		24	21	26	16	16	22	19	23	19	21
1500		3	10	11	12	11	11	9	12	9	0
2000		0	0	0	0	0	0	0	0	0	0

## **CETIS Analytical Report**

Report Date: Link/Link Code: 02 Aug-08 14:13 (p 1 of 1) 00-1930-8156/29101

Cerlodaphnia 7-d Survival and Reproduction Test

Zeta

Pacific EcoRlsk

Analyzed:

Data Transform

Untransformed

Analysis No: 15-3110-2743 02 Aug-08 14:12 **Endpoint:** Reproduction Analysis:

> Alt Hyp C > T

Nonparametric-Control vs Treatments

Monte Carlo

Not Run

**CETIS Version:** Official Results: Yes

CETISv1.6.4

		_	
LOEL	TOEL	TU	PMSD
1000	707	0.2	12.4%

Control	VS	Conc-mg/L	Test Stat	Critical	Ties	P-Value	Decision(5%)
Lab Water		250	92	76	3	0.3810	Non-Significant Effect
		500	80.5	76	3	0.0973	Non-Significant Effect
ì		1000*	66.5	76	2	0.0066	Significant Effect
		1500*	55	76	0	0.0003	Significant Effect

NOEL

500

#### **ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2904.68	726.17	4	57.1	0.0000	Significant Effect
Error	572.7	12.72667	45	_		
Total	3477.38	738.8967	49	_		

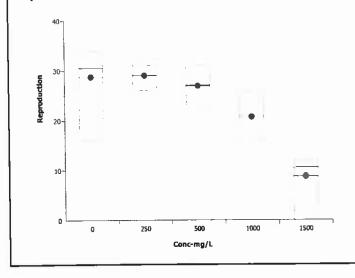
#### ANOVA Assumptions

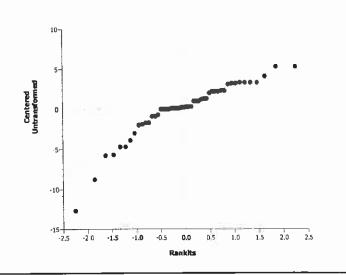
ı	Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
	Variances	Bartlett Equality of Variance	14.9	13.3	0.0049	Unequal Variances
1	Distribution	Shapiro-Wilk Normality	0.891		0.0002	Non-normal Distribution

#### Reproduction Summary

(teproduction											
Conc-mg/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
ō	Lab Water	10	28.7	26.6	30.8	16	34	1	5.4	18.8%	0.0%
250		10	29	28.4	29.6	26	31	0.277	1.49	5.14%	-1.05%
500		10	26.9	26	27.8	23	31	0.424	2.28	8.49%	6.27%
1000		10	20.7	19.5	21.9	16	26	0.607	3.27	15.8%	27.9%
1500		10	8.8	7.26	10.3	0	12	0.752	4.05	46.0%	69.3%

#### **Graphics**





Report Date:

02 Aug-08 14:14 (p 1 of 1) 00-1930-8156/29101

Link/Link Code:

Ceriodaphnia 7-d Survival and Reproduction Test

Pacific EcoRisk

Analysis No: 14-0636-6504 Analyzed:

02 Aug-08 14:12

Endpoint: Reproduction

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.6.4 Official Results:

he ·	Vac	

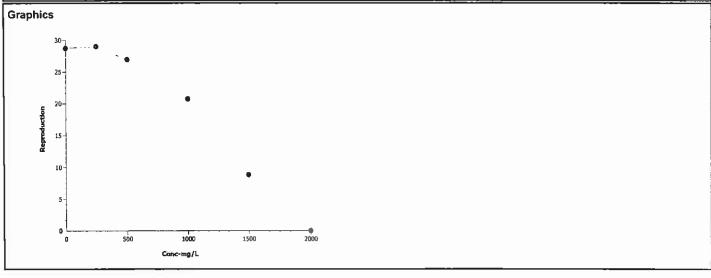
7 111017 2001				
		<del>- ,</del>	<del></del>	 
Linear Interpo	olation Options			

Linear Interpola	Linear Interpolation Options											
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method							
Linear	Linear	5334240	280	Yes	Two-Point Interpolation							
Point Estimates	s											

Point Estimates										
Effect-%	Conc-mg/L	95% LCL	95% UCL							
2.5	342	75	554							
5	435	150	608							
10	575	316	720							
15	692	479	843							
20	808	631	985							
25	924	741	1040							
40	1140	1060	1200							
50	1260	1200	1330							

Reproduction Summary				Calculated Variate							
Conc-mg/L	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%		
0	Lab Water	10	28.7	16	34	0.985	5.4	18.8%	0.0%		
250		10	29	26	31	0.272	1.49	5.14%	-1.05%		
500		10	26.9	23	31	0.417	2.28	8.49%	6.27%		
1000		10	20.7	16	26	0.597	3.27	15.8%	27.9%		
1500		10	8.8	0	12	0.739	4.05	46.0%	69.3%		
2000		10	0	0 _	0	0	0		100.0%		

Reproduction Detail												
Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10	
0	Lab Water	34	16	32	32	32	29	30	28	31	23	
250		29	30	29	30	31	26	27	29	30	29	
500		27	27	30	23	26	27	26	27	25	31	
1000		24	21	26	16	16	22	19	23	19	21	
1500		3	10	11	12	11	11	9	12	9	0	
2000		0	0	0	0	0	0	0	0	0	0	



## **CETIS Analytical Report**

Report Date:

02 Aug-08 14:14 (p 1 of 1)

00-1930-8156/29101

Pacific EcoRlsk

Ceriodaphnia 7-d Survival and Reproduction Test

Link/Link Code:

Analysis No: 03-2306-7762 02 Aug-08 14:13 Analyzed:

Endpoint: 7d Survival Rate Analysis:

Untrimmed Spearman-Kärber

**CETIS Version:** 

CETISv1.6.4

Official Results: Yes

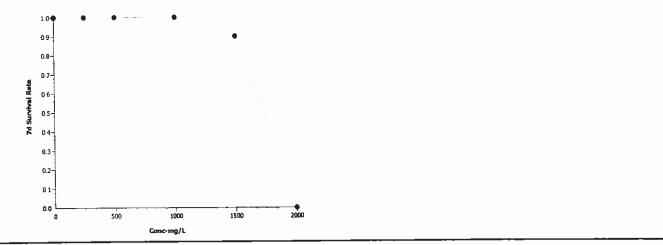
Spearman-Kärber	Estimates
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Threshold Option	Threshold	Trim	Mu	Sigma	EC/LC50	95% LCL	95% UCL	
Control Threshold	0	0.00%	3.22	0.0143	1670	1570	1790	

7d Survival	Rate Summary			i							
Conc-mg/L	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	Α	В
0	Lab Water	10	1	1	1	0	0	0.0%	0.0%	10	10
250		10	1	1	1	0	0	0.0%	0.0%	10	10
500		10	1	1	1	0	0	0.0%	0.0%	10	10
1000		10	1	1	1	0	0	0.0%	0.0%	10	10
1500		10	0.9	0	1	0.0577	0.316	35.1%	10.0%	9	10
2000		10	0	0	0	0	0		100.0%	0	10

7d Survival Rate Detail											
Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Lab Water	1	1	1	1	1	1	1	1	1	1
250		1	1	1	1	1	1	1	1	1	1
500		1	1	1	1	1	1	1	1	1	1
1000		1	1	1	1	1	1	1	1	1	1
1500		1	1	1	1	1	1	1	1	1	0
2000		0	0	0	0	0	0	0	0	0	0

# Graphics



## **CETIS Analytical Report**

Report Date:

02 Aug-08 14:14 (p 1 of 1)

Link/Link Code:

00-1930-8156/29101

Ceriodaphnia 7-d Survival and Reproduction Test

Pacific EcoRisk

Analyzed:

Analysis No: 18-4993-4275 02 Aug-08 14:12 Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

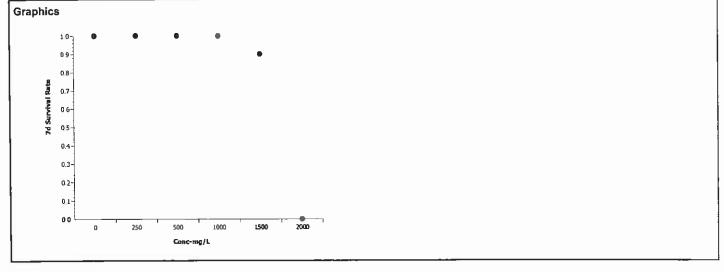
CETIS Version: CETISv1.6.4

Official Results: Ye	S
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Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	· ·	C > T	Not Run	1500	2000	1730	0.0667	N/A

Fisher Exact	/Bonf	erroni-Holm Test			
Control	vs	Conc-mg/L	Test Stat	P-Value	Decision(0.05)
Lab Water		250	1	1	Non-Significant Effect
		500	1	1	Non-Significant Effect
1		1000	1	1	Non-Significant Effect
		1500	0.5	1	Non-Significant Effect
		2000	5.41E-06	0.0000271	Significant Effect

Data Summa	ry			
Conc-mg/L	Control Type	No-Resp	Resp	Total
0	Lab Water	10	0	10
250		10	0	10
500		10	0	10
1000		10	0	10
1500		9	1	10
2000		0	10	10



# Short-Term Chronic 3-Brood Ceriodaphnia dubia Survival & Reproduction Test Data

Client	t:		Re	ference	Toxic	ant		Ma	terial:		Sodiu	m Chlo	oride_			Test	Date:	7/8/08
Ргој	ect #:		13423		Tes	t ID #:		29101			Contr	ol Wai	ter / Di	luent:				Lab Water (80:20)
	-	р	Н	D.	О.	Cond.	Temp				Surv	ival / R	eprodu	ction				SIGN-OFF
	Day	New	Old	New	Old	(μS/cm)	(°C)	Α	В	C	D	Е	F	G	Н	ı	J	
	0	5.08		トンチ		223	24.2	0	0	0	0	0	0	0	0	0	U	Date: 78/08 Time: 1730 Sol'n Prep: New WQ- 11 K Test Loading: 142
	1	9.03			6.9	220	24.3	O	0	0	0	0	0	0	0	0	0	Date: 7968 Time: Sol'n Prep: New WQ: AND Old WQ: AND Counts: No.
	2	R-20	231	8.2	3.6	229	24.2		0	0	0	Q	0	0	0	0	0	Date:71008 Time: 1030 Sol'n Prep: RV New WQ: 470 Old WQ:AD Counts: PPU Date:7-11-03 Time: 1130 Sol'n Prep:
_	3 .	2.97				221	24.2	D	0	Ð	0	0	D	0	٥	0	_	New WO: Old WO: AT Counts:
Lab Control	4	7.75	915	7.5	8,5	211	24.4	0	3	0	4	7	0	0	7	0	3	Date: 7-12-9 Time: 1450 Sol'n Prep: W
ပိ					7:9		24.Z		3	7	v	D	5	7	0	8		Dale: 7/13/06 Time: 1045 Sol'n Prep: PV New WQ: HP Old WQ: HT Counts: V
Lab		835				237	-		10	10	9	10	10	11	9	9	14	Date: 714/02 Time: 120 Sol'n Prep: XV New WQ: MC Old WQ: MC Counts: RV
1		8.18			_				120			15	14		12	14	0	Date: 7 (170) Time: 1400 Sol'n Prep: New WQ: Old WQ: Counts: 200
	7	/	8.23	/_	7.6	235	24.6	14	202	15	17	13	19	10	10	17		Date: Time: Sol'n Prep:
	8							~34			2.0	2.0	2.4	2 -	2.0	2.1	22	New WQ: Old WQ: Counts: $X = 28.7$
							Total =	D4	16	32			25		28	01	43	X =
	Day		Н		.0.	Cond. (µS/cm)			В	С	D	rival / R	Reprodu F	G	Н	I	J	·
<u> </u>		New	_	New	Old		$\vdash$	Α	0	0	0	0	0	0	0	0	0	
		8-07		7.6	_	749		0	-	_		-					Ü	
1	1	9.13	805	8.5	6.7	507		ッ	0	0	0	0	0	0_	0	0		
	2	9.13	8.35	80	91.86	731		0	0	0	0	0	0	0	0	0	0	
	3	8.07	8.03	8.2	6.9	707		6	O	σ	0	0	0	0	0	0	0	
mg/L	4	7,90	823	8.1	8-5	693		ڻ	7	0	0	5	5_	4_	le	5	0	
.50 mg/L	5	8.20	812	85	7,9	735		7	0	6	6	0	ે	0	٥	0	7	
2	6	8.16	8 25	8.4	7.4	728		16	8	12	10	11	9	9	10	10	10	
1	7	-	_		7.1	757		12	15	t1	14	15	12	12	13	15	12	
	8		0.10		177			102										
	-				1		Total =	20	30	29	20	21	26	27	24	30	29	v = 29 0

205/255

# Short-Term Chronic 3-Brood Ceriodaphnia dubia Survival & Reproduction Test Data

Chen	t:		Ref	<u>ference</u>	<b>Toxic</b>	ant		Ma	terial:		Sodiu	m Chlo	oride			Test	Date:	7/8/08
						st ID #:					Contr	ol Wa	ter / Di	iluent:				Lab Water (80:20)
		р	Н	D.	O.	Cond.					Surv	ival / R	eprodu	ction				
	Day		Old			(µS/cm)		Α	В	С	D	Е	F	G	Н	1	J	
	0	8.03		7,7		1236		0	0	0	0	0	0	0	0	0	0	
	1	9.12	8.03	8.6	7.1	1164		0	U	0	0	٥	0	6	0	0	0	
	2	8.24	3.30	8.2	8.2	1240		0	0	0	0	O	0	0	0		0	
,	3					1205		0	0	0	0	0	0	0	0	0	0	
500 mg/L	4	7.94	8.25	8.2	87	1124		ပ	4	0	O	1	4	6	4	5_	0	
000		8.11	_		1			5	٥	7	2	0	0	ō	0	O	8	
v		8.13						(0	9	11	7_	8	8	7	9	8	10	
	7		8.15			1303		12	14	12	14	14	15	13	14	12	13	
	8											·						
							Total =	27	27	30	23	26	27	26	27	25	31	x= 26.9
1	Davi	р	Н		.O.	Cond.					Sur		eprodu	ction			т	
	Day		H		Old	(µS/cm)	-	A	В	С	D	Е	F	G	Н	1	J	
	0	New 7,97	Old	New <b>8.</b> (	Old	(μS/cm) 2/3 <del>7</del>	-	A 0	B 0	C 0		E 0	F 0	G 0	0	0	J 0	
	0	New 7.97	Old 8.07	New 8.1	Old 7.3	(µS/cm) 2137 2169					D	Е	F	G		1	J	
	0	New 7.97	Old 8.07	New 8.1	Old 7.3	(µS/cm) 2137 2169		0	0	0	D 0	E 0 0 0	F 0	G 0	0	0	J 0	
	0 1 2	New 7.97 9.11 8.19	Old 8.07	New 8:1 9:2 8:5	Old 73 8,6	(µS/cm) 2137 2169 2182		0	0	0	D 0	0 0	F 0 σ	G 0	0	0	J 0 O	
mg/L	0 1 2 3	New 7.97 9.11 8.19 8.07	Old 8.07 8.28 7.95	New 8.1 9.2 8.5 8.6	Old 7.3 8.6 7.1	(µS/cm) 2137 2169 2182 2140		0 <b>0</b>	0	0 0	D 0 0	E 0 0 0	6 0 0	G 0 0	0 0	0 0	J 0 0	
000 mg/L	0 1 2 3 4	New 7.97 9.11 8.9 8.07 7.95	8.07 8.28 7.95	New 8.1 9.2 8.5 8.6 8.6	Old 7.3 8.6 7.1 8.2	(µS/cm) 2137 2169 2182 2140 2063		0 0 0	0 0 0	0 0 0	D 0 0 0 0	E 0 0 0 0	F 0 0 0	G 0 0 0 0 0	0 0 0	0 0 0	J 0 0 0 0 0 6	
1000 mg/L	0 1 2 3 4 5	New 7.97 9.11 8.9 8.07 7.95	8.07 8.28 7.95 8.18	New 8.1 9.2 8.5 8.6 8.6 8.9	Old 7.3 8.6 7.1 8.2 8.0	(µS/cm) 2137 2169 2182 2140 2063 2133		0 0 0 0	0 0 0 0	0 0 0 0	D 0 0 0 0 3	E 0 0 0 0 5	6 0 0 0 5	G 0 0 0 0 3	0 0 0 0	0 0 0 3	J 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
1000 mg/L	0 1 2 3 4 5	New 7.97 9.11 8.9 8.07 7.95 8.00 8.08	8.07 8.28 7.95 8.14 8.18 8.21	New 8.1 9.2 8.5 8.6 8.6 8.9 8.8	Old 7.3 8.6 7.1 8.2 8.0 7.0	(µS/cm) 2137 2169 2182 2140 2063 2132 2208		0 0 0 0	0 0 0 0 3	0 0 0 0 0 0 6	0 0 0 0 3	0 0 0 0 5	F 0 0 0 0 5 0	G 0 0 0 0 3 0 0	0 0 0 0	0 0 0 3	J 0 0 0 0 0 6	
1000 mg/L	0 1 2 3 4 5	New 7.97 9.11 8.9 8.07 7.95 8.00 8.08	8.07 8.28 7.95 8.14 8.18 8.21	New 8.1 9.2 8.5 8.6 8.6 8.9 8.8	Old 7.3 8.6 7.1 8.2 8.0 7.0	(µS/cm) 2137 2169 2182 2140 2063 2133		0 0 0 0 0 0 0 6	0 0 0 0 3 7	0 0 0 0 0 0 6	D 0 0 0 3 0 6	E 0 0 0 0 5 0 5	F 0 0 0 0 5 0	G 0 0 0 0 3 0 6	0 0 0 0 5 0 6	0 0 0 3 0 6	J 0 0 0 0 0 6 8	
1000 mg/L	0 1 2 3 4 5 6 7	New 7.97 9.11 8.9 8.07 7.95 8.00 8.08	8.07 8.28 7.95 8.14 8.18 8.21	New 8.1 9.2 8.5 8.6 8.6 8.9 8.8	Old 7.3 8.6 7.1 8.2 8.0 7.0	(µS/cm) 2137 2169 2182 2140 2063 2132 2208 2303		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 3 7 11	0 0 0 0 0 6 8 12	0 0 0 0 3 0 4	E 0 0 0 5 0 5 6	F 0 0 0 0 5 0	G 0 0 0 0 3 0 6 10	0 0 0 0 5 0 6	0 0 0 3 0 6 10	J 0 0 0 0 6 8	x = 20.7

# Short-Term Chronic 3-Brood Ceriodaphnia dubia Survival & Reproduction Test Data

Clien	t:		Re	<u>ference</u>	<b>Toxic</b>	ant		Ma	terial:		Sodi <u>u</u>	m Chl	oride			Test	Date:	118/08	
Pro	ject #:		13423		Tes	st ID#:		29101			Contr	ol Wa	ter / D	iluent:				Lab Water (80:20)	
		р	Н	D.	О.	Cond.					Surv	ival / R	Reprodu	ction					
	Day	New	Old	New	Old	(µS/cm)		Α	В	С	D	Е	F	G	Н	1	J		
		7.99		8.4		3080		0	0	0	0	0	0	0	0	0	0		
	1	9.03	8.03	9,4	7.5	2983		0	0	0	0	อ	ð	Ø_	0	ď	XO.		
	2	9.03 8.12	8,25	9.6	8,5	3120		0	0	0	0	0	0	0	0	د	~		
, ,	3	8.00	8.06	3-8	7.0	3060		6	0	0	0	0	ð	0	0	0	_		
l/gu	4	7.93	822	8.1	82	3050		0	0	0	0	3	0	Ō	3	0	}		
500 mg/L	5	<b>ሕ</b> ዒ2	817	9.8	8,0	3080		2	4	2	2	0	3	2	0	2	-		
7.		8.02				3180		0	4	6	5	4	6	5	6	5	_		
	7	/	8-11			3320			2	3	5	4	2	2	3	2	)		_
	8																		
							Total =	3	10	11	12	IJ	11	9	12	9	×10	x = 8.8	
	Day	<u> </u>	н		О.	Cond.					Surv	ival / F	Reprodu	ction		9		x = 8.8	
	Day	New	Old		Old	Cond. (µS/cm)		A	В	С	Surv	ival / R	Reprodu F	ction G	Н	I	J	x = 8.8	
	Day 0	New 7.83	Old	New 8.3	Old	Cond. (µS/cm)		A 0		C 0	Surv D	ival / F	Reprodu	G 0	H 0	0	J	x = 9.8	
		New 7.83	Old 7.89	New 8.3	Old	Cond. (µS/cm) 4030 3990		A 0	B 0	С	Surv D	ival / R	Reprodu F	G 0	Н	0 0	J 0	x = 8.8	
	0	New 7.83	Old 7.89	New 8.3	Old	Cond. (µS/cm)		A 0 0 X 0	В 0 б	C 0	Surv D	E 0 C)	Reprodu F	G 0 0	H 0	0	0 0	x = 9.8	
r	0 1 2	New 7.83 9.06 8.08	Old 7.89 8.22	New 8.3 9.6 9.0	Old 6.8 8.7	Cond. (µS/cm) 4030 3990		A 0	B 0	C 0 ×10	Surv D 0	E 0	F 0	G 0	H 0	0 0	J 0	x = 8.8	
mg/L	0 1 2	New 7.83 9.06 8.08	Old 7.89 8.22	New 8.3 9.6 9.0	Old 6.8 8.7	Cond. (µS/cm) 4030 3990 3790		A 0 0 X 0	В 0 б	C 0 ×10 -	Surv D 0 O	E 0 C)	F 0	G 0 0	H 0 X/o	0 0	0 0	x = 8.8	
000 mg/L	0 1 2 3 4	New 7.83 9.06 8.08 7.96 7.93	7.89 8.22 8.02 8.70	New 8.3 9.6 9.0 9-1 9.3	6.8 8.7 7.3 8.2	Cond. (µS/cm) 4030 3990 3790 3960		A 0 0 X/0	B 0 5 5 ×/o	C 0 ×10 -	Surv D 0 0	E 0 C)	F 0 0 O	G 0 0	H 0 X/o	0 0 0	J 0 0 0 ×/0	x = 8.8	
2000 mg/L	0 1 2 3 4 5	New 7.83 9.06 8.08 7.96 7.93 7.87	7.89 8.22 8.02 8.70	New 8.3 9.6 9.6 9-1 8.3	01d 6.8 8.7 7.3 8.2 7.9	Cond. (µS/cm) 4036 3990 3980 4030		A 0 0 X 0	B 0 5 5 ×/o	C 0 × 10 -	Surv D 0 0	E 0 0 O ×/o —	F 0 0 O O	G 0 0	H 0 X/ 0 /	0 0 0 0	J 0 0 ×/0 -	x = 8.8	
2000 mg/L	0 1 2 3 4 5	New 7.83 9.06 8.08 7.96 7.93 7.93 7.99	7.89 8.22 8.02 8.70 8.17 8-18	New 8.3 9.6 9.0 9-1 8.3 10.4 9-3	01d 6.8 8.7 7.3 8.2 7.9	Cond. (µS/cm) 4036 3990 3980 3980 4030 41 LO		A 0 0 X 0 -	B 0 5 5 ×/o	C 0 X/0	Surv D 0 0	O */o -	F 0 0 O O O	G 0 0	H 0 X/ 0 /	0 0 0 0	J 0 0 ×/0 -	x = 9.8	
2000 mg/L	0 1 2 3 4 5	New 7.83 9.06 8.08 7.96 7.93 7.93 7.99	7.89 8.22 8.02 8.70 8.17 8-18	New 8.3 9.6 9.6 9-1 8.3	01d 6.8 8.7 7.3 8.2 7.9	Cond. (µS/cm) 4030 3990 3980 4030 41030		A 0 0 × 0 / 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B 0 5 5 ×/o	C 0 × 10	Surv D 0 0	O */o -	F 0 0 0 0 0 0 x/o	G   O   Ø   O   X/o   -   -	H 0 X/0 / / / / / / / / / / / / / / / / /	0 0 0 0 0 0 0	J 0 0 1 1 1 1 1	x = 9.8 x = 0.0	

# **Appendix H**

# Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the Fathead Minnows

06 Aug-08 14:00 (p 1 of 2) 17-0024-8648/29066

								1 691 OOGE	•		11.0024	00-0/20000
Chronic Larval	Fish Survival a	nd Gro	wth Test								Pacif	ic EcoRisk
Test Run No: Start Date: Ending Date: Duration:	12-9965-7222 22 Jul-08 17:15 29 Jul-08 11:55 6d 19h	5	Test Type: Protocol: Species: Source:	Growth-Surviv EPA/821/R-02 Pimephales pr Aquatic Biosys	-013 (2002) omelas			Analyst: Diluent: Brine: Age:	Mod-	Jirasritumro Hard Synthe Applicable	-	
	03-6983-7628 22 Jul-08 17:15 22 Jul-08 17:15 N/A (25 °C)	!	Code: Material: Source: Station:	13409 Sodium chloric Reference Too In House				Cilent: Project:	Refe 1340	rence Toxica	ant	
Comparison S	ummary		_	<del></del> -				· · ·				
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Me	thod			
01-8958-5600	7d Survival Rate	•	1,5	3	2.12	11.3%		Du	nnett's	Multiple Con	nparison T	est
02-1323-2223	Mean Dry Bioma	ass-mg	1.5	3	2.12	18.4%		Du	nnett's	Multiple Con	nparison T	est
Point Estimate	Summary		<del></del>				_					
Analysis No	Endpoint		Leve	Conc-g/	95% LCL	95% UCL	TU	Me	thod			
02-3792-0899	7d Survival Rate	е	EC2.5 EC10		1.14 1.7	2.16 2.76		Lin	ear Re	gression (ML	.E)	
			EC15 EC25 EC40	2.79 3 3 3 3.61	1.97 2.2 2.42 3.06	3.03 3.26 3.47 4.11						
14 7276 1960	Mean Dry Biom	266-m0	EC50 I IC2.5		3.5 N/A	4,59 1.94		Lin	ear Inte	erpolation (IC	CPIN)	
14-7370-1005	Weat Dry Olom	a33-1119	IC5 IC10 IC15 IC20 IC25 IC40 IC50	1.09 1.44 1.62 1.76 1.9 2.32	N/A 0.0237 0.582 0.995 1.19 1.84 2.24	1.93 1.9 1.98 2.08 2.18 2.52 2.83				_	,	
7d Survival R	ate Summary		-			-						
Conc-g/L	Control Type	Соцп	it Meai	n 95% LC	L 95% UCL	Min	Ma	x St	d Err	Std Dev	CV%	Diff%
0	Lab Water	4	0.97		0.994	0.9	1	0.0	00913	0.05	5.13%	0.0%
0.75		4	1	1	1	1	1	0		0	0.0%	-2.56%
1.5		4	1	1	1	1	1	0		0	0.0%	-2.56%
3		4	0,67	5 0.619	0.731	0.5	8.0	0.0	0274	0.15	22.2%	30.8%
6		4	0.27		0.322	0.1	0.4	0.0	023	0.126	45.8%	71.8%
9		4	0	0	0	0	0	0		0		100.0%
Mean Dry Blo	mass-mg Sumn	nary										
Conc-g/L	Control Type	Cour	nt Mea	n 95% LC			Ma		d Err	Std Dev	CV%	Diff%
0	Lab Water	4	0.44	6 0.433	0.46	0.424	0.4		00643	0.0352	7.88%	0.0%
0.75		4	0.44	5 0.421	0.469	0.354	0.5	05 0.	0117	0.0643	14.4%	0.28%
1.5		4	0.39	8 0.373	0.424	0.316	0.4	63 0.	0125	0.0687	17.2%	10.8%
3		4	0.15	9 0.147	0.17	0.124	0,1	9 0.	00551	0.0302	19.0%	64.4%
		4	0.09	0.0773	0.103	0.052	0.1	27 D	00634	0.0347	38.5%	79.8%
6		7	0.03	0.0773	0.100	U.UUL		_,		0.00 17	00.070	

06 Aug-08 14:00 (p 2 of 2)

17-0024-8648/29066

Chronic La	val Fish Survival	and Grow	th Test			Pacific EcoRisk
7d Survival	Rate Detail					
Conc-g/L	<b>Control Type</b>	Rep 1	Rep 2	Rep 3	Rep 4	
0	Lab Water	1	0.9	1	1	<del></del>
0.75		1	1	1	1	
1.5		1	1	1	1	
3		0.5	0.8	0.8	0.6	
6		0.3	0.3	0.4	0.1	
9		0	0	0	0	
Mean Dry B	iomass-mg Detai	ı		_		
Conc-g/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Lab Water	0.43	0.433	0.424	0.499	
0.75		0.354	0.505	0.461	0.461	
1.5		0.316	0.368	0.463	0.446	
3		0.124	0.177	0.19	0.144	
6		0.071	0.111	0.127	0.052	
9		0	0	0	0	

06 Aug-08 14:00 (p 1 of 2) 17-0024-8648/29066

Pacific EcoRisk

Chronic Larval Fish Survival and Growth Test

Analysis No: 02-1323-2223

Endpoint: Mean Dry Biomass-mg

**CETIS Version:** 

CETISv1.6.5

Parametric-Control vs Treatments Official Results: Yes Analysis: Analyzed: 06 Aug-08 13:59

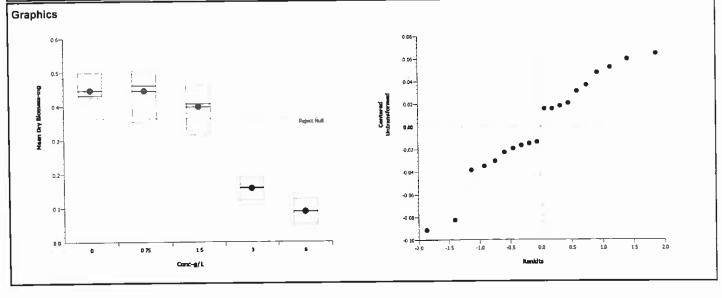
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C>T	Not Run	1.5	3	2.12		18.4%

Dunnett's Mu	ıltiple	Comparison Tes	t				
Control	vs	Conc-g/L	Test Stat	Critical	MSD	P-Value	Decision(5%)
Lab Water	-	0.75	0.0358	2.36	0.0823	0.7880	Non-Significant Effect
		1,5	1.38	2.36	0.0823	0.2400	Non-Significant Effect
		3*	8.24	2.36	0.0823	0.0000	Significant Effect
		6*	10.2	2.36	0.0823	0.0000	Significant Effect

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)	
Between	0.4634201	0.115855	4	47.5	0.0000	Significant Effect	
Error	0.0366121	0.002440807	15				
Total	0.50003219395876	0.11829582997598	19				_

ANOVA Assump	otions				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	3.13	13.3	0.5360	Equal Variances
Distribution	Shapiro-Wilk Normality	0.951		0.3890	Normal Distribution

omass-mg Sumn	nary									
Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%_	Diff%
Lab Waler	4	0.446	0.433	0.46	0.424	0.499	0.00654	0.0352	7.88%	0.0%
	4	0.445	0.421	0.47	0.354	0.505	0.0119	0.0643	14.4%	0.28%
	4	0.398	0.372	0.424	0.316	0.463	0.0128	0.0687	17.2%	10.8%
	4	0.159	0.147	0.17	0.124	0.19	0.00561	0.0302	19.0%	64.4%
	4	0.0903	0.077	0.103	0.052	0.127	0.00645	0.0347	38.5%	79.8%
	Control Type	Lab Waler 4 4 4 4	Control Type         Count         Mean           Lab Water         4         0.446           4         0.445           4         0.398           4         0.159	Control Type         Count         Mean         95% LCL           Lab Water         4         0.446         0.433           4         0.445         0.421           4         0.398         0.372           4         0.159         0.147	Control Type         Count         Mean         95% LCL         95% UCL           Lab Water         4         0.446         0.433         0.46           4         0.445         0.421         0.47           4         0.398         0.372         0.424           4         0.159         0.147         0.17	Control Type         Count         Mean         95% LCL         95% UCL         Min           Lab Water         4         0.446         0.433         0.46         0.424           4         0.445         0.421         0.47         0.354           4         0.398         0.372         0.424         0.316           4         0.159         0.147         0.17         0.124	Control Type         Count         Mean         95% LCL         95% UCL         Min         Max           Lab Water         4         0.446         0.433         0.46         0.424         0.499           4         0.445         0.421         0.47         0.354         0.505           4         0.398         0.372         0.424         0.316         0.463           4         0.159         0.147         0.17         0.124         0.19	Control Type         Count         Mean         95% LCL         95% UCL         Min         Max         Std Err           Lab Water         4         0.446         0.433         0.46         0.424         0.499         0.00654           4         0.445         0.421         0.47         0.354         0.505         0.0119           4         0.398         0.372         0.424         0.316         0.463         0.0128           4         0.159         0.147         0.17         0.124         0.19         0.00561	Control Type         Count         Mean         95% LCL         95% UCL         Min         Max         Std Err         Std Dev           Lab Water         4         0.446         0.433         0.46         0.424         0.499         0.00654         0.0352           4         0.445         0.421         0.47         0.354         0.505         0.0119         0.0643           4         0.398         0.372         0.424         0.316         0.463         0.0128         0.0687           4         0.159         0.147         0.17         0.124         0.19         0.00561         0.0302	Control Type         Count         Mean         95% LCL         95% UCL         Min         Max         Std Err         Std Dev         CV%           Lab Water         4         0.446         0.433         0.46         0.424         0.499         0.00654         0.0352         7.88%           4         0.445         0.421         0.47         0.354         0.505         0.0119         0.0643         14.4%           4         0.398         0.372         0.424         0.316         0.463         0.0128         0.0687         17.2%           4         0.159         0.147         0.17         0.124         0.19         0.00561         0.0302         19.0%



Report Date:

06 Aug-08 14:00 (p 2 of 2) 17-0024-8648/29066

Test Code:

							1001	Code.		17-002-	-00-01230
Chronic Larva	l Fish Survival	and Grow	th Test				·			Pacif	ic EcoRis
Analysis No:	01-8958-5600	En	dpoint: 7d S	Survival Rate	<del></del>		CETI	S Version:	CETISv1.	6.5	
Analyzed:	06 Aug-08 13:5		•	ametric-Con		ments	Official Results:				
					=			<del>-</del> .			
Data Transfor		Zeta	Alt Hyp	Monte Car	lo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	cted)		C > T	Not Run		1.5	3	2.12		11.3%	
Dunnett's Mul	Itiple Compariso	on Test									
Control	vs Conc-g/L		Test Stat	Critical	MSD	P-Value	Decision(	5%)			
Lab Water	0.75 -0		-0.541	2.36	0,178	0.9280	Non-Signi	ficant Effect			
	1.5		-0.541	2.36	0.178	0.9280	Non-Signi	ficant Effect			
	3*		5.31	2.36	0.178	0.0002	Significan	t Effect			
	6*		11	2.36	0.178	0.0000	Significan	l Effect			
ANOVA Table							_				
Source	Sum Squ	ares	Mean Squ	ıare	DF	F Stat	P-Value	Decision(	5%)		
Between			0.5881483		4	51.8	0.0000	Significant	<del>`</del>		
Error	0.1703624	4	0.0113574		15			- · <b>J</b> · · · · · · · · ·			
Total	2.522955		0.5995057		19						
ANOVA Assu	mntions				_		_				
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Leve		4.89	0.0571	Equal Va	•					
Distribution		Wilk Norma	-	0.877	4.03	0.0371	Normal D				
	<u>-`</u>	VVIIK INOITII	211LY	0.077		0.0134	140111181 12		<del>-</del>		
	tate Summary										
Conc-g/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	0.0%
0.75		4	1	1	1	1	1	0	0	0.0%	-2.56%
1.5		4	1	1	1	1	1	0	0	0.0%	-2.56%
3		4	0.675	0.618	0.732	0.5	0.8	0.0279	0.15	22.2%	30.8%
6		4	0.275	0.227	0.323	0.1	0.4	0.0234	0.126	45.8%	71.8%
Angular (Cor	rected) Transfor	med Sun	marv							-	
Conc-g/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	0.0%
0.75		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-2.97%
		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-2.97%
1.5		•						_	_		
3		4	0.971	0.91	1.03	0.785	1.11	0.0301	0.162	16.7%	29.2%
6		4	0.541	0.483	0.6	0.322	0.685	0.0287	0.155	28.6%	60.5%
Graphics											
10-7		•				0.15-7					
09-										• •	-
0,5				Reject Hull		0 10-					
0.8			*			0.00					
9 0.7-						0.05			••••		
1 1						ano Par			•		
\$ 0.6-						3 3					
P 05						-0 05-					
						1	•				

-1.0

-0.5

0.0

-15

1,5

Report Date:

06 Aug-08 14:00 (p 1 of 2)

Test Code:

17-0024-8648/29066

								1est (	Joue.		17-002-	4-0040/29000
Chronic	Larval Fisi	h Survival a	and Growth	Test							Pac	ific EcoRisk
Analysis	No: 02-3	792-0899	End	point: 7d S	urvival Rat	e		CETI	S Version:	CETISv1.	6.5	
					ar Regression (MLE) Official Results:							
							<del></del>					
Linear F	Regression	Options										
Model F	Model Function Threshol						Optimized		Het Corr	Weighted		
Log-Non	mai [NED=/	\+B*log(X)]		Control The	reshold	0.025	Yes	No	No	Yes		
Regress	sion Summ	ary						_				
iters	s LL AICc Mu Sigma				G Stat	Chi-Sq	Critical	P-Value	Decision(	5%)		
22	<b>-47.1</b>	98.8	0.354	0.192	0.0744	11.6	28.9	0.8670 Non-Significant Hete			geneity	
Point E	<del></del> stimates			-								
Level	Conc-g/L	95% LCL	95% UCL									
EC2.5	1.7	1.14	2.16									
EC10	2.29	1.7	2.76									
EC15	2.56	1.97	3.03									
EC20	2.79	2.2	3.26									
EC25	3	2.42	3.47									
EC40	3.61	3.06	4.11									
EC50	4.04	3.5	4.59									
Regres	slon Pararr	eters			_			_				
Parame	Parameter Estimate Std Error 95% LCL					t Stat	P-Value	Decision	(5%)			
Thresho	old	0.0089	0.00997	-0.0106	0.0284	0.893	0.3840	Non-Significant Parameter				
Slope		5.21	0.725	3.79	6.63	7.18	0.0000	Significant Parameter				
Intercep	ot	1.84	0.493	0.875	2.81	3.73	0.0015	Significan	t Parameter			
Residu	al Analysis											
Attribu	te	Method			Test Stat	Critical	P-Value	Decision	(5%)			
Variano	es	Mod Leve	ne Equality	of Variance	4.95	3.06	0.0095	Unequal Variances				
Distribu	ition	Shapiro-V	Vilk Normalit	ty	0.924		0.1200	Normal D	istribution			
7d Sur	vival Rate S	Summary				Calcu	ılated Varia	te(A/B)				
Conc-g	/L Cont	rol Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	Α	В
0	Lab V	Vater	4	0.975	0.9	1	0.00913	0.05	5.13%	0.0%	39	40
0.75			4	1	1	1	0	0	0.0%	-2.56%	40	40
1.5			4	1	1	1	0	0	0.0%	-2.56%	40	40
3			4	0.675	0.5	0.8	0.0274	0.15	22.2%	30.8%	27	40
6			4	0.275	0.1	0.4	0.023	0.126	45.8%	71.8%	11	40
9			4	0	0	0	0	0		100.0%	0	40
1	vival Rate I		_	_		_						
Сопс-		rol Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab \	Vater	1	0.9	1	1						
0.75			1	1	1	1						
1.5			1	1	1	1						
3			0.5	0.8	8.0	0.6						
6			0.3	0.3	0.4	0.1						
9			0	0	0	0						

06 Aug-08 14:00 (p 2 of 2) 17-0024-8648/29066

Pacific EcoRisk Chronic Larval Fish Survival and Growth Test Endpoint: 7d Survival Rate **CETIS Version: CETISv1.6.5** Analysis No: 02-3792-0899 Linear Regression (MLE) Official Results: Yes Analyzed: 06 Aug-08 13:59 Analysis: Graphics 1 5-0.5 0.3 -10 -15-0 1 -2.0 1.0-1.0-0.5-0.0 -0.5--1.0 1.5 .2.0-L 0.5 7d Survival Rate Conc-g/L

#### **CETIS Analytical Report**

Chronic Larval Fish Survival and Growth Test

Report Date:

06 Aug-08 14:00 (p 1 of 1)

17-0024-8648/29066 Test Code:

Pacific EcoRisk

**CETIS Version:** CETISv1.6.5 Endpoint: Mean Dry Biomass-mg

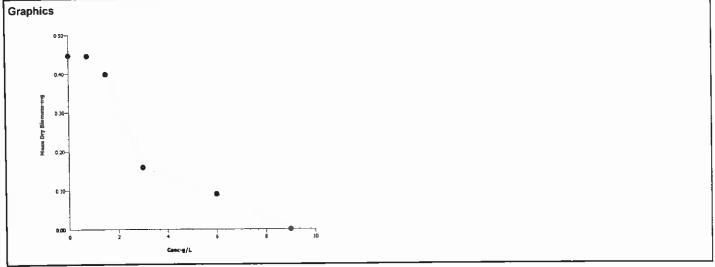
Analysis No: 14-7376-1869 Yes Linear Interpolation (ICPIN) Official Results: 06 Aug-08 14:00 Analysis: Analyzed:

Linear Interpolation Options Resamples Exp 95% CL Method Y Transform Seed X Transform Two-Point Interpolation 453528 280 Yes Linear Linear

Lilleai			
Point F	stimates		
roint L			
Level	Conc-g/L	95% LCL	95% UCL
IC2.5	0.908	N/A	1.94
IC5	1.09	N/A	1.93
IC10	1.44	0.0237	1,9
IC15	1.62	0.582	1.98
IC20	1.76	0.995	2.08
IC25	1.9	1.19	2.18
IC40	2.32	1.84	2.52
IC50	2.6	2.24	2.83

Mean Dry E	liomass-mg Sum	mary								
Conc-g/L	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	0.446	0.424	0.499	0.00643	0.0352	7.88%	0.0%	
0.75		4	0.445	0.354	0.505	0.0117	0.0643	14.4%	0.28%	
1.5		4	0.398	0.316	0.463	0.0125	0.0687	17.2%	10.8%	
3		4	0.159	0.124	0.19	0.00551	0.0302	19.0%	64.4%	
6		4	0.0903	0.052	0.127	0.00634	0.0347	38.5%	79.8%	
9		4	0	0	0	0	0		100.0%	

Mean Dry E	Biomass-mg Deta	il				
Conc-g/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	 
0	Lab Water	0.43	0.433	0.424	0.499	
0.75		0.461	0.354	0.505	0.461	
1.5		0.316	0.368	0.463	0.446	
3		0.124	0.177	0.19	0.144	
6		0.071	0.111	0.127	0.052	
9		0	0	0	0	



# 7 Day Chronic Fathead Minnow Reference Toxicant Test Data

Client:	Re	ference Toxic	ant	Organism Log#: _	4021	-	48 Age: 248 hrs
Test Material:	So	dium Chloride (g.	(L)	Organism Supplier: _	ab5		
Test ID#:	29066	Project #:	13409	Control/Diluent:		ЕРАМН	
Test Date:	1/22/08	Random	ization: 4.6.1	Control Water Batch: _		12-	

Temp (C)  15.5  25.5  25.5  25.5	7.97 7.97 7.94 1.90	Old	8.1 8.0	Old	(µs/cm)	A 10	10 B	c 10	D 10	SIGN-OFF
25.5 25.5 25.5	7.97		8.0		282	10	10	10	10	Date
25.5	7.90					$\overline{}$			10	Date 7/22-U 8 Test Solution Prep
25.5			-0		1863	10	10	10	10	New WQ
	7.95		7.9		3300	10	10	10	10	Intistion Time
25.5			B.0		6140	10	10	10	10	Initiation Signoff
	793		8.0		11350	10	10	10	10	
25.5	7.88		7.9		16390	10	10	10	10	
MA	PHII		D012		F105					2
25.7	7.98	7.82	8.4	7.2	350,280	10	[0	10	10	Date 7/23/08
25.7	8.03	7.85	8,3	7.5	1843	10	10	10	10	Test Solution Prep RV New WQ.
25.7	8.02	7.75	8. 3	7.0	3140	10	10	10	10	AJR
25.7	8.00	7.63	8.3	6.6	5980	10	10	10	10	Renewal Time  1005  Renewal Signoff
25.7	7.97	7.59	8.3	6.6	11,360	10	10	10	10	Ko
25.7	7.94	7.64	8.3	6.9	17,290	3	6	3	3	Old WO DAP
17A	PHOY	Pho9	Dolo	00.14	EC05				_	
25 .7	794	8.09	9.1	8.1	279	10	10	10	10	Date 7/24/08
25.7	608	785	4.8	7.0	1751	10	Įδ	٥١	16	New WO
25.7	8.02	7.89	9.0	7.0	3160	10	10	10	10	JAP
25.7	7.98	7.74	8.9	7.0	5900	10	10	10	10	Renewal Time: 1005 Renewal Signoff:
25.7	7.92	7.68	9.0	6.9	11070	10	8	8	٩	JPC
25.7	7.91	7.67	9.2	6.9	16260	0	0	0	0	Old WQ DAP
174	PHO9	PH09	D014	DOIY	ECOY				_	
25.9	8.19			7.4	235	10	10	10	10	Date 7/25/08
25.9	8.13	7.93	2.3	7.2	1740	10	10	10	16	Test Solution Prep
25.9	3.14	7,87	9.3	٧.٢	3140	10	10	10	10	HIM
25.9	8.08	7,77	8.3	7.3	4050	10	10	10	10	1105
	V	7.80	8.4	6.7	11390	4	7	5	7	Renewal Signoff:
25.9	_	_	~	_	_	_	_	_	_	Old WO
-55	NAMA	PHU3	00/2	Poly	4205	1			<u>L</u>	
	25.7 25.7 25.7 25.7 25.7 25.7 25.7 25.7	17A PHII 25.7 7.98 25.7 8.02 25.7 8.00 25.7 7.97 25.7 7.97 25.7 7.97 25.7 7.99 25.7 7.99 25.7 7.99 25.7 7.99 25.7 7.99 25.7 7.90 25.7 7.90 25.7 7.90 25.9 8.00 25.9 8.03 25.9 8.03 25.9 8.04	17A PHII 25.7 7.98 7.82 25.7 8.03 7.85 25.7 8.00 7.63 25.7 7.97 7.69 25.7 7.94 7.64 17A PHOY Pho9 25.7 7.98 7.79 25.7 7.98 7.74 25.7 7.98 7.74 25.7 7.99 7.68 25.7 7.90 7.68 25.7 7.91 7.68 25.7 7.92 7.68 25.9 8.13 7.93 25.9 8.08 7.77 25.9 8.08 7.77 25.9 8.08 7.77 25.9 8.08 7.77 25.9 8.08 7.77	17A PHII DD12 25.7 7.98 7.82 8.4 25.7 8.03 7.85 8.3 25.7 8.02 7.75 8.3 25.7 8.00 7.63 8.3 25.7 7.97 7.59 8.3 25.7 7.94 7.64 8.3 17A PHOY Pho9 DO10 25.7 7.93 7.89 9.0 25.7 7.93 7.89 9.0 25.7 7.93 7.89 9.0 25.7 7.93 7.89 9.0 25.7 7.93 7.89 9.0 25.7 7.93 7.67 9.2 17A PHO9 PHO9 DO14 25.9 8.13 7.93 8.3 25.9 8.03 7.77 8.3 25.9 8.03 7.77 8.3 25.9 8.04 7.80 8.4	17A PHII	17A PHII	17A PHII	17A PHII 102	17A PHII DD2 \$105 25.7 7.98 7.82 8.4 7.2 355 750 10 10 10 25.7 8.03 7.85 8.3 7.5 1843 10 10 10 25.7 8.02 7.75 8.3 7.0 3140 10 10 10 25.7 8.00 7.63 8.3 6.6 5980 10 10 10 25.7 7.97 7.59 8.3 6.6 11,360 10 10 10 25.7 7.94 7.64 8.3 6.9 17,290 3 6 3 17A PHOY Phoy Do10 00.14 5005 25.7 8.02 7.83 4.3 7.0 3160 10 10 10 25.7 8.03 7.89 9.0 7.0 3160 10 10 10 25.7 8.03 7.89 9.0 7.0 3160 10 10 10 25.7 7.93 7.48 8.9 7.0 5900 10 10 10 25.7 7.93 7.67 9.2 6.9 16260 0 0 17A PHOY PHOY DO14 DO14 ECOY 25.9 9.19 8.10 8.4 7.4 235 10 10 10 25.9 8.10 7.87 9.3 7.4 3140 10 10 25.9 8.08 7.77 8.3 7.3 4050 10 10 10 25.9 8.08 7.77 8.3 7.3 4050 10 10 10 25.9 8.04 7.80 8.4 6.7 11390 4 7 5 25.9 8.04 7.80 8.4 6.7 11390 4 7 5	17A PHII

# 7 Day Chronic Fathead Minnow Reference Toxicant Test Data

Client.	Refere	nce Toxica	nt	Organism Log#:	4021	Age:	248 hz
Test Material:	Sodi	um Chloride		Organism Supplier:	ass_		
Test ID#:	29066 F	Project #:	13409	Control/Diluent:	EPA	MH	
Test Date:	7/22108	Randomi	zation: 4.6.1	Control Water Batch:	リタター		

<u></u>	~		, <u> </u>	D.O. (	ma/L)	Conductivity	£	Live Or	oaniems		
Treatment	Temp (°C)	new	old	new	old	(µs/cm)	Α	В	С	D	SIGN-OFF
Control	257	8.16	7.85	8.2	7.0	286	10	10	Įο	10	Date 7/26/08
0.75	25.7	8,06	7.73	8.0	7.0	1733	סו	10	lo	10	Test Solution Prep:
1.5	15.7	8.03	7.68	8,1	6.8	3 230	10	סו	10	1D	SUK
3	25.7	7.48	7.60	8.1	7.0	5990	10	JO.	סו	10	Renewal Time 13 40
6	25.7	7.93	7.58	8.1	7.1	11210	4	4	5	6	Renewal Signoff <b>R√</b>
9	-	1	-	-	-	_	-	_	_	-	Old WQ
Meter ID	17A_	oH03	phil	Dolo	D014	ECO1					
Control	25.7	8.11	7.87	8.0	7.5	299	[0]	9	10	10	Date: 7/27/08
0.75	25.7	8.03	781	80	7.3	1704	10	ID	lo	10	Test Solution Prep
1.5	25.7	8.00	7.81	8.1	7.5	3120	10	lo	10	٥	New WQ
3	25.7	7.44	7.78	8.1	7.3	5860	10	8	10	lo	Renewal Time 0945
6	25.7	7.90	7.70	8.0	7.6	11140	3	4	4	6	Renewal Signoff
9	-	-	-	-	-	_	-	-	•	_	HH Old WQ
Meter ID	17A	0403	PW9	Dolo	Doly	Ecol					
Control	25.7	8.14	7.84	8.8	4.3	301	10	9	10	10	Date 7/28/08
0.75	25,7	8.10	7.34	87	6.2	1539	10	10	10	10	Test Solution Prep. PV
1.5	25.7	8.10	7.81	26	6.1	2730	lo	10	10	10	New WQ
3	25.7	8.07	7.77	26	59	5200	5	8	8	8	Renewal Time
6	25.7	3.04	1.72	8.6	5.9	9830	3	4	4	6	Renewal Signoff
9	-	_	_	-		-	-	_	-	-	Old WO:
Meter 1D	171	pH09	Ph03	book	0010	5005					
Control	25.7	<u></u>	7.73		66	310	10	9	10	(0	
0.75	75.7		7.67		(0)	2980-165	10	10	10	10	Termination Time: 55
1.5	75.7		7.65		607	2850	10	10	10	10	Termination Signoff
3	25.7		7.66		6.8	5380	5	6	8	6	Old WO DW
6	75.7	7	7.61		6.9	11070	3	3	4	1	and the state of t
9	-		-		-		_	-	_	_	- In the second
Meter 1D	17A		PHO3		2010	Elal					

# Fathead Minnow Dry Weight Data Sheet

Client: Reference Toxicant

Sample: Sodium Chloride

Tare Weight Date: 7-22-08

Final Weight Date: 7-30-08

Sign-off: NC

Sign-off: NC

Pan 1D	Concentration Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Control A	112-28	119.88	10	0.430
2	В	126.25	130.58	10	0,433
3	C	150.71	154.95	10	0. 424
4	D	145-86	15085	10	0. 499
5	0.75 A	118.26	aliro	10	0,354
6	В	144.23	144.28	10	0, 505
7	С	149.32	153.93	10	०, ५६।
8	D	135.35	139.96	10	0, 461
9	1.5 A	119.62	122.78	10	0,316_
10	В	122.96	126.64	10	0. 368
11	С	138.27	142.90	10	0, 463
12	D	171-24	175.70	10	0, 446
13	3 A	139.44	140-68	10	0.124_
14	В	156.81	128.28	10	0, 177
15	С	141.20	143.10	10	0.190
16	D	129.26	130.70	10	0. 144
17	6 A	138.77	139.48	10	0.071
18	В	19283	193.94	10	0.111
19	С	204.23	20550	10	0.127
20	D	145.44	14546	10	0.052
21	9 A	117.30	_	10	
22	В	130.06		10	
23	С	118.38	_	10	
24	D	169.24		10	_
QA1		169-01	169-01		
QA2		139.28	139,27		
QA3		180.87	110.86		
Balance ID	:				

# **Appendix I**

# Test Data and Summary of Statistics for the Reference Toxicant Evaluation of the *Hyalella azteca*

## **CETIS Summary Report**

Report Date:

23 Jul-08 11:09 (p 1 of 1) 02-0837-4149/29333

Test Code:

									rest code.			02-0037-4	14312333.
Hyalella Survi	val and Growth 1	Test		_								Pacific	: EcoRisk
Test Run No: Start Date: Ending Date: Duration:	17-8327-9851 17 Jul-08 11:55 21 Jul-08 10:45 95h	Prot	ocol: cies:	USE Hya	Survival USEPA Freshwater Sediment (2000) Hyalella azteca Aquatic Indicators, FL				Analyst: Diluent: Brine: Age:	uent: Hyalella water ine: Not Applicable			
	03-7925-3714 17 Jul-08 11:55 17 Jul-08 11:55 N/A (22.8 °C)	Cod Mate Sou Stat	erial: rce:	Ref	66 assium chlor erence Toxic louse		_		Cllent: Project:	Refe 1346	rence Toxic	ant	<del></del>
Comparison S	Summary				-								
Analysis No	Endpoint Pate		NOE		UOEL 0.4	TOEL 0.283	PMSD N/A	TU	Met		act/Bonferro	ni Holm Tos	·I
06-5600-1061	Survival Rate		0.2		0.4	0.263	N/A			EI EX	ic/Boille ito	m-noim res	
Point Estimate									••				
Analysis No	Endpoint Date		EC2.		0.167	95% LCL 0.0565	95% UCL 0.26	10	Met		gression (MI	EV	
04-5878-8982	Survival Rate		EC2.		0.167	0.0365	0.25		Line	ai Ne	Alession (IAII	-E <i>)</i>	
			EC15		0.289	0.149	0.399						
			EC20		0.324	0.181	0.44						
			EC25		0.357	0.213	0.482						
			EC40	)	0.458	0.312	0.623						
			EC50	)	0.532	0.382	0.747						
Survival Rate	Summary						_						
Conc-g/L	Control Type	Count	Mear	1	95% LCL	95% UCL	Min	Max	c Std	Err	Std Dev	CV%	Diff%
0	Lab Water	10	1		1	1	1	1	0		0	0.0%	0.0%
0.1		10	1		1	1	1	1	0		0	0.0%	0.0%
0.2		10	1		1	1	1	1	0		0	0.0%	0.0%
0.4		10	0.5		0.303	0.697	0	1	0.09	962	0.527	105.0%	50.0%
0.8		10	0.4		0,207	0.593	0	1	0.09	943	0.516	129.0%	60.0%
1.6		10	0		0	0	0	0	0		0		100.0%
Survival Rate	Detail												
Conc-g/L	Control Type	Rep 1	Rep	2	Rep 3	Rep 4	Rep 5	Rep	<b>6</b> Rep	7	Rep <b>8</b>	Rep 9	Rep 10
0	Lab Water	1	1		1	1	1	1	1		1	1	1
0.1		1	1		1	1	1	1	1		1	1	1
0.2		1	1		1	1	1	1	1		1	1	1
0.4		0	1		1	0	1	0	0		1	0	1
0.8		1	0		1	0	0	1	1		0	0	0
1								0	0		0	0	0

23 Jul-08 11:09 (p 1 of 2) 02-0837-4149/29333

Pacific EcoRisk Hyalella Survival and Growth Test Analysis No: 04-5878-8982 **CETISv1.6.5** Endpoint: Survival Rate **CETIS Version:** 23 Jul-08 11:09 Linear Regression (MLE) Official Results: Yes Analyzed: Analysis: **Linear Regression Options Model Function** Threshold Optimized Pooled **Het Corr** Weighted Threshold Option No Yes Control Threshold 0 Yes Yes Log-Normal [NED=A+B\*log(X)] Regression Summary G Stat Chi-Sq Critical P-Value Decision(5%) LL AICc Mu Sigma Iters 0.22 0.2890 3.76 7.81 Non-Significant Heterogeneity 41.6 1.55 0.256 -15.8 **Point Estimates** 95% UCL Level Conc-g/L 95% LCL EC2.5 0.167 0.0565 0.26 0.25 0.116 0.354 EC10 0.289 0.149 0.399 EC15 0.44 EC20 0.324 0.181 EC25 0.357 0.213 0.482 EC40 0.458 0.312 0.623 EC50 0.382 0.747 0.532 Regression Parameters 95% UCL t Stat P-Value Decision(5%) Estimate Std Error 95% LCL Parameter. 4.18 0.0250 Significant Parameter 2.07 5.74 3.9 0.935 Slope 0.0005 Significant Parameter 6.07 0.367 5.35 6.79 16.6 Intercept Residual Analysis Test Stat Critical P-Value Decision(5%) **Attribute** Method Normal Distribution Shapiro-Wilk Normality 0.971 0.8840 Distribution Survival Rate Summary Calculated Variate(A/B) В CV% Diff% **Control Type Std Dev** Α Conc-g/L Count Mean Min Max Std Err Lab Water 10 1 1 0 0 0.0% 0.0% 10 10 1 0 0 0 0.0% 0.0% 10 10 1 1 1 0.1 10 0.0% 10 1 1 1 0 0 0.0% 10 10 0.2 0.527 105.0% 50.0% 5 10 10 0.5 0 1 0.0962 0.4 0.516 129.0% 60.0% 4 10 0.0943 0.8 10 0.4 0 1 0 100.0% 10 1.6 10 0 0 0 0 0 Survival Rate Detail Conc-g/L **Control Type** Rep 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Rep 7 Rep 8 Rep 9 Rep 10 0 Lab Water 1 1 1 1 1 1 1 1 1 1 0.1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0.2 0 0 0 0 1 1 0 1 1 0.4 0 1 1 0 0 0 1 0 1 0 0.8 0 0 0 0 0 0 0 0 0 0 1.6

#### **CETIS Analytical Report**

Report Date: Test Code: 23 Jul-08 11:09 (p 2 of 2) 02-0837-4149/29333

Pacific EcoRisk Hyalella Survival and Growth Test **CETIS Version: CETISv1.6.5** Analysis No: 04-5878-8982 Endpoint: Survival Rate Linear Regression (MLE) Official Results: Yes 23 Jul-08 11.09 Analysis: Analyzed: Graphics 1.0-0.6 0.2 10-0.3 15--10--15 0.D -15 0.5 12

#### **CETIS Analytical Report**

Analyzed:

23 Jul-08 11:09

Report Date:

23 Jul-08 11:09 (p 1 of 1)

Test Code:

Official Results: Yes

02-0837-4149/29333

Hyalella Survival and Growth Test

Analysis No: 06-5600-1061 Endpoint: Survival Rate

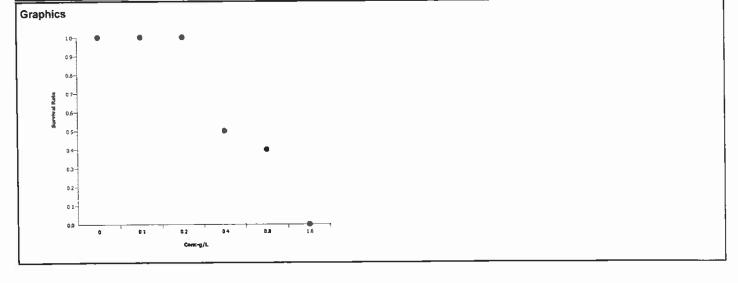
CETIS Version: CETISv1.6.5

Analysis: STP 2x2 Contingency Tables

		A14 11	Mana Carla	NOSI	LOEL	TOEL	TU	PMSD	
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL		10		
Untransformed		C > T	Not Run	0.2	0.4	0.283		N/A	

Fisher Exac	Fisher Exact/Bonferroni-Holm Test													
Control	vs	Conc-g/L	Test Stat	P-Value	Decision(0.05)									
Lab Water		0.1	1	1	Non-Significant Effect									
		0.2	1	1	Non-Significant Effect									
		0.4	0.0163	0.0488	Significant Effect									
		0.8	0.00542	0.0217	Significant Effect									
		1.6	5.41E-06	0.0000271	Significant Effect									

Data Summa	ta Summary												
Conc-g/L	Control Type	No-Resp	Resp	Total									
0	Lab Water	10	0	10									
0.1		10	0	10									
0.2		10	0	10									
0.4		5	5	10									
0.8		4	6	10									
1.6		0	10	10									



# 96 Hour Hyalella azteca Reference Toxicant Test Data

Client:	Referen	ce Toxicant		Test Date:		7/17/08	
Test Material:	Potassiu	ım Chloride		Control/Diluent:		Hyalella Water	
Test ID#:	29333	Project #	13466	Control Water Batch:		315	
Pandomization:	C-6-8			Feeding T0 Time:	830	Initials:	

T	Toma		D.O.	Conductivity	_		<del></del> -	# 1	ive A	nima	s			_	C' - Off
Treatment (g/L)	Temp (°C)	pН	(mg/L)	(µS/cm)	A	В	С	D	Е	F	G	Н	I	J	Sign-Off
Control	22.8	7.85	8,7	381	1	1	1	1	1	1	1	1	1	1	Test Solution Prep:
0.1	22.8	7.81	8.6	577	1	1	1	1	1	1	1	1	1	1	New WQ: AD
0.2	2z.8		7,4	734	ı	1	1	1	1	1	1	1	j	1	Initiation Date: 7/17/08
0.4	22.8	7,93	8.3	1132	1	ì	1	1	1	1_	1	1	1	1	Initiation Time: 1155
0.8	22.8	7.95	8,3	1904	1	1	1	1	1	1	1	1	1	1	Initiation Signoff:
1.6	22.8	7.95	2,2	3320	1	1	1	1	1	1	1	1	1	1	
Meter ID	13	Phoq	2010	ECOI											
Control	23.4				1	1	1	1	1	)	t		(	1	Count Date: 7-18-08
0.1	23.4				(	١	1	-	<u>\</u>	- 1	i	1	1	1	Count Time: Alo
0.2	23.4					١	1	١	1	1		1	1		Count Signoff:
0.4	23.4					(	1	1	1	1	1	ı ı		1	
0.8	23.4				نا	1	1	1	1	t	-	<u>'</u>	1	1	
1.6	23.4					1	1	1	1	1	1		-	ŧ	
Meter ID	B				<u> </u>										Court Dates of 1 C
Control	23.5				1	1	1	١	1	\	\	١	1		Count Date: 7/19/08 Count Time: 930
0.1	23.5					1	1	1	1	1	1	1	1	1	
0.2	23.5	•			1	1	1	1	1	1	1	1	1	1	Count Signoff: & P
0.4	13.5				1	1	1	0	1_	0	0	1	1	1	
0.8	23.5				1	0	1	0	0	1	1	0	0	0	
1.6	23.5				0	0	0	0	0	0	0	0	0	0	
Meter ID	13									<u> </u>					Court Dates 4
Control	23.5				1	1	1	1	1	1	1	1	1	1	Count Time: q : 45
0.1	23.5				\	1	1	1	1	1	<u> </u>	1	1	1	Count Signoff:
0.2	23.5				7	1	1	1	1	1	1	1	1	1	Count Signoil: QP
0.4	23.5				t	1	1	_	t	-	_	1	0	1	
0.8	23.5				1	<u> </u>	1	<u>  -</u>		1	1	_	_	-	
1.6	23.5				_	<u> </u>	<u> </u>	-	<u> </u>	<del>  -</del> _	-	-	-	-	
Meter 1D	13				<u> </u>		1		<u> </u>	Ļ	<del> </del>	<u> </u>	1_	<u> </u>	Tourisation Date: 1
Control	22.3	8.37	7.3	440	1	1	1	1	1	1	1	ı	1	1	Termination Date: 72405
0.1	223	8.20	7.8	633	$\perp$	1	1	1	1	11			1	<u> </u>	Termination Time: 1045
0.2	22.7	8.17	7.3	784	(	1	1	1	1	1	1	1	1	11	Termination Signoff
0.4	22.3	NM	NM	Ph	0	1	1	<u> </u>	1	-	_	1.	-	11	Old WQ: YU
0.8	22.3	8.08	7.3	2078	1	_	1	1-	_	)	(	-	-	-	
1.6	22.7	8.08	7.5	3440	_	_	-	_	_	-	-	-	1-	-	
Meter ID	13	P409	0012	Ecol		<u></u>	<u> </u>	<u> </u>	<u> </u>			L			<u> </u>

# Appendix J

Test Data and Summary of Statistics for the Evaluation of Ambient Water Toxicity to Selenastrum capricornutum – Field Duplicate Toxicity Assessment

#### **CETIS Summary Report**

Report Date: Test Code: 04 Sep-08 16:04 (p 1 of 1) 11-0929-9390/29451

Selenastrum G	Frowth Test			-						Pacifi	c EcoRisk
Test Run No: Start Date: Ending Date: Duration:	10-5186-3457 31 Jul-08 11:45 04 Aug-08 12:30 4d 1h	Test Proto Spec Sour	ies: S	Ceil Growth EPA/821/R-02-0 Selenastrum cap n-House Culture	oricornutum		Analy Dilue Brine Age:	nt: Not	Jirasritumro Applicable Applicable	ong	
Sample No: Sample Date: Receive Date: Sample Age:	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	Code Mate Sour Stati	rial: /	NWDS-003 Ambient Water JRS NWDS	-		Clien Proje				
Comparison S	ummary			-							
Analysis No 07-6291-5247	Endpoint Cell Density		NOEL 100	<b>LOEL</b> >100	TOEL N/A	PMSD 59.8%	<b>TU</b>	Method Dunnett's	Multiple Cor	nparison T	est
Point Estimate	e Summary										
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Method			
Cell Density S Conc-% 0 6.25 12.5 25	Cell Density	Count 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	IC2.5 IC5 IC10 IC15 IC20 IC25 IC40 IC50 Mean 2.41E4 3.12E4 2.94E4 1.53E4	13.2 14 15.5 16.9 18.4 19.9 24.3 >100 95% LCL 6 2.35E+6 6 3.03E+6 6 2.38E+6 1.34E+6	2.67 2.83 3.17 3.5 3.83 4.16 5.16 N/A 95% UCL 2.47E+6 3.20E+6 3.50E+6 1.72E+6 1.91E+6	13.8 15.1 17.7 20.3 22.9 25.7 N/A N/A Min 2.23E+6 2.88E+6 7.23E+5 1.10E+6 7.87E+5	7.55 7.15 6.47 5.9 5.43 5.03 4.11 <1 Max 2.63E+6 3.39E+6 3.89E+6 2.25E+6 2.95E+6		Std Dev 1.67E+5 2.30E+5 1.50E+6 5.07E+5 1.01E+6	CV% 6.92% 7.37% 51.1% 33.1% 66.2%	Diff% 0.0% -29.3% -21.8% 36.4% 36.5%
100		4	1.82E	+6 1.51E+6	2.13E+6	1.01E+6	2.98E+6	1.52E+5	8.31E+5	45.6%	24.4%
Cell Density I	Detail										
Conc-%	Control Type	Rep 1	Rep 2		Rep 4						
0 6.25 12.5 25 50	Lab Water	2.63E+6 2.88E+6 3.84E+6 1.51E+6 2.95E+6 1.72E+6	2.36E- 3.39E- 3.89E- 1.10E- 8.15E- 1.01E-	+6 2.98E+6 +6 3.29E+6 +6 1.27E+6 +5 7.87E+5	2.23E+6 3.21E+6 7.23E+5 2.25E+6 1.57E+6 1.58E+6						

Report Date:

04 Sep-08 16:04 (p 1 of 1) 11-0929-9390/29451

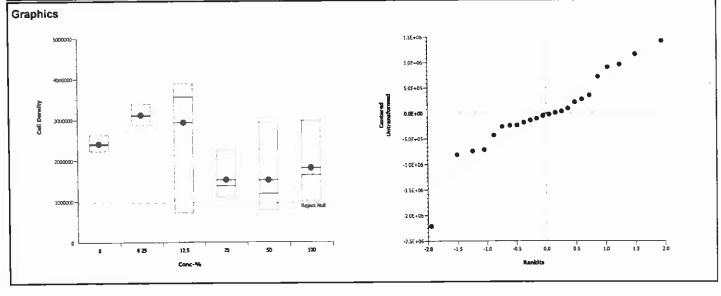
**Test Code:** 

							, 552			
Selenastrum	Growl	h Test								Pacific EcoRisi
Analysis No: Analyzed:		291-5247 Sep-08 16:04	•	I Density ametric-Co	ntrol vs Trea	lments		S Version: lal Results		1.6.5
Data Transfor	m	Zeta	Alt Hyp	Monte Ca	arlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	d		C > T	Not Run		100	>100	N/A	1	59.8%
Dunnett's Mu	Itiple	Comparison Tes	t			_				
Control	vs	Conc-%	Test Stat	Critical	MSD	P-Value	Decision	5%)		
Lab Water		6.25	-1.18	2.41	1440000	0.9890	Non-Signi	ficant Effec	:t	
		12.5	-0.878	2.41	1440000	0.9760	Non-Signi	ficant Effec	rt .	
		25	1.47	2.41	1440000	0.2390	Non-Signi	ficant Effec	t	
		50	1.47	2.41	1440000	0.2380	Non-Sign	ficant Effec	at .	
		100	0.981	2.41	1440000	0.4300	Non-Sign	ficant Effec	at .	
ANOVA Table	•	<del></del>						_	_	<u></u>
Source		Sum Squares	Mean Sq	иаге	DF	F Stat	P-Value	Decision	n(5%)	
Between		9.821524E+12	1.964305	E+12	5	2.74	0.0521	Non-Sigr	nificant Effect	zt t

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	9.821524E+12	1.964305E+12	5	2.74	0.0521	Non-Significant Effect
Error	1.291334E+13	7.174078E+11	18			
Total	2.2734863073E+13	2.6817125417E+12	23			
AMOVA Accus	motions					· · · · · · · · · · · · · · · · · · ·

ANOVA Assumption	ons				
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Bartlett Equality of Variance	14.4	15.1	0.0132	Equal Variances
Distribution	Shapiro-Wilk Normality	0.931		0.1020	Normal Distribution

Cell Density	Summary										
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	MIn	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	2.41E+6	2.35E+6	2.47E+6	2.23E+6	2.63E+6	3.10E+4	1.67E+5	6.92%	0.0%
6.25		4	3.12E+6	3.03E+6	3.20E+6	2.88E+6	3.39E+6	4.26E+4	2.30E+5	7.37%	-29.3%
12.5		4	2.94E+6	2.37E+6	3.51E+6	7.23E+5	3.89E+6	2.79E+5	1.50E+6	51.1%	-21.8%
25		4	1.53E+6	1.34E+6	1.73E+6	1.10E+6	2.25E+6	9.42E+4	5.07E+5	33.1%	36.4%
50		4	1.53E+6	1.15E+6	1.92E+6	7.87E+5	2.95E+6	1.88E+5	1.01E+6	66.2%	36.5%
100		4	1.82E+6	1.51E+6	2.14E+6	1.01E+6	2.98E+6	1.54E+5	8.31E+5	45.6%	24.4%



Report Date:

04 Sep-08 16:04 (p 1 of 1)

Test Code:

11-0929-9390/29451

Selenastrum Growth Test

Analysis No: 01-1157-0727 Endpoint: Cell Density
Analyzed: 04 Sep-08 16:04 Analysis: Linear Interpolation (ICPIN)

Pacific EcoRlsk

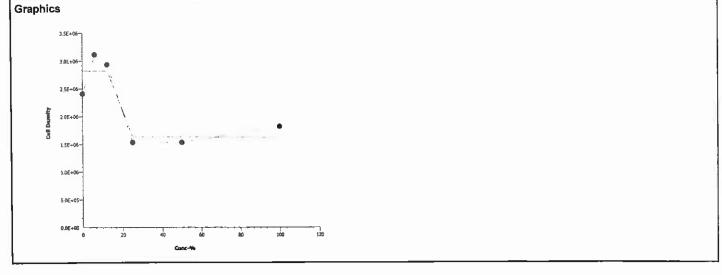
CETIS Version: CETISv1.6.5

Official Results: Yes

X Trans	sform	Y Transform	Seed	Resamples	Exp 95%	CL Method	
Linear		Linear	7747401	280	Yes	Two-Point Interpolation	
Point E	stimates						
Level	Сопс-%	95% LCL	95% UCL	TU	95% LCL	95% UCL	
IC2.5	13.2	2.67	13.8	7.55	7.25	37.5	
IC5	14	2.83	15.1	7.15	6.63	35.3	
IC10	15.5	3.17	17.7	6.47	5.66	31.6	
IC15	16.9	3.5	20.3	5.9	4.93	28.6	
IC20	18.4	3.83	22.9	5.43	4.37	26.1	
IC25	19.9	4.16	25.7	5.03	3.89	24	
IC40	24.3	5.16	N/A	4.11	N/A	19.4	
IC50	>100	N/A	N/A	<1	N/A	N/A	

Cell Densi	ity Summary			Calculated Variate						
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	
0	Lab Water	4	2.41E+6	2.23E+6	2.63E+6	3.04E+4	1.67E+5	6.92%	0.0%	
6.25		4	3.12E+6	2.88E+6	3.39E+6	4.19E+4	2.30E+5	7.37%	-29.3%	
12.5		4	2.94E+6	7.23E+5	3.89E+6	2.74E+5	1.50E+6	51.1%	-21.8%	
25		4	1.53E+6	1.10E+6	2.25E+6	9.26E+4	5.07E+5	33.1%	36.4%	
50		4	1.53E+6	7.87E+5	2.95E+6	1.85E+5	1.01E+6	66.2%	36.5%	
100		4	1.82E+6	1.01E+6	2.98E+6	1.52E+5	8.31E+5	45.6%	24.4%	

Cell Densi	ty Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	2.63E+6	2.36E+6	2.42E+6	2.23E+6
6.25		2.88E+6	3.39E+6	2.98E+6	3.21E+6
12.5		3.84E+6	3.89E+6	3.29E+6	7.23E+5
25		1.51E+6	1.10E+6	1.27E+6	2.25E+6
50		2.95E+6	8.15E+5	7.87E+5	1.57E+6
100		1.72E+6	1.01E+6	2.98E+6	1.58E+6



# Selenastrum capricornutum Cell Density Enumeration Data

Client:	URS: DMC	Initial Count:	10,000 cells/mL	
Test Material:	NWDS-003-TOX	Enumerating Scientist:	QV2	
Test Start Date: 7 31 / 68	Start Time: (1:45	Project #:	13489	
Test End Date:	End Time: 1230	Test ID #:_	29451	

		C	ell Density (cells/ml)	( 10°)	
Treatment	Rep A	Rep В	Rep C	Rep D	Mean
Lab Water Control	2.63	2.36	2.42	2, 23	2.41
6.25%	2.88	3.39	2.98	3.21	3.11
12.5%	3.84	3.89	3.29	0.723	2.94
25%	1.51	1.10	1.27	2.25	1.53
50%	2.95	0.815	0.787	1.57	1.53
100%	1.72	1.01	2.98	1.58	1.82
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 106)	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	2.41	6.9	8-5-08	טים רן	旭

# Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29451 Test Date: 7/31/08

Test Material: NWDS-003-TOX Project #: 13 4 89 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	25.5	7.45	7.9	134	Date: 7/31/08
6.25% Sample	25.5	1.72	3.0	185	Sample ID 20180
12.5% Sample	25.5	7.75	8.1	234	Test Solution Prep G
25% Sample	25.5	7.85	8.1	342	New WQ.
50% Sample	25.5	7.91	8.2	530	Innoculation Time: 11:45
100% Sample	25.5	7.95	8.4	900	Innoculation Signoff: LO
Meter ID:	[9A	PH03	DOID	57.05	
Lab Water Control	24.9	7.82		i grati	Date: 8.01.08
6.25% Sample	24.9	7-86			WQ Time: 1700
12.5% Sample	74-9	7.93			WQ Signoff: ASR
25% Sample	24.9	7.99			
50% Sample	24-9	8.05			
100% Sample	24-9	8.40			
Meter ID:	15A	PH //			
Lab Water Control	ኂ५.7	8.85	ALCES ALE		Date: 8/108
6.25% Sample	24.7	9.05			WQ Time: 1025
12.5% Sample	24.7	9.13			WQ Signoff: HTA
25% Sample	24.7	8.95			
50% Sample	24.7	8.83			
100% Sample	24.7	8.72			
Meter ID:	41	PHUÝ			
Lab Water Control	24.9	9.56	WERNE T		Date: 8/3108
6.25% Sample	249	9.88			WQ Time: 1645
12.5% Sample	24.9	9.93			WQ Signoff:
25% Sample	24.9	9.92			
50% Sample	249	9.75			
100% Sample	249	9.41			
Meter ID:	四年开	PHI			
Lab Water Control	74.7	10-00	10-2	150	Date 8 /. 4/c 8
6.25% Sample	27.7	10.16	16.4	197	Termination Time 1230
12.5% Sample	247	10.03	10.8	-240	Termination Signoff:
25% Sample	247	9.98	12.1	342	WQ Time: 0940
50% Sample	77.7	10.39	13.7	537	WQ Signoff:
100% Sample	24.7	9.61	12.4	867	
Meter ID:	41	PH09	POID	eas	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	114	211	415

04 Sep-08 16:14 (p 1 of 1)

14-4300-7476/29453

							T€	st Code:			14-4300	-7476/2945
Selenastrum (	Growth Test						_				Paci	fic EcoRis
Start Date:	10-8544-5530 31 Jul-08 11:45 04 Aug-08 13:45 4d 2h	Proto	ies:	Cell Growth EPA/821/R-02-( Selenastrum ca In-House Cultur	pricornutum	- 1	Di Bi	nalyst: iluent: rine: ge:	Not /	Jirasritumi Applicable Applicable	rong	
•	00-0311-9157 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	Code Mater Source Static	rial: /	NWDS-003-DU Ambient Water URS NWDS	P			lient: roject:	URS 1348			
Comparison S	Summary											<u> </u>
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	od			
17-1772-7175	Cell Density		100	>100	N/A	46.9%	1	Dunr	nett's l	Multiple Co	mparison T	est
Point Estimat	e Summary		_					<u> </u>	_			
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	nod			
15-4594-9589	Cell Density		IC2.5	27.4	11.5	70.8	3.65	Linea	ar Inte	rpolation (I	CPIN)	
			IC5	29.8	18	76.7	3.35					
			IC10	34.7	24.1	95.1	2.88					
			IC15	39.5	28	N/A	2.53					
			IC20	44.3	30.5	N/A	2.25					
			IC25	49.2	33.2	N/A	2.03					
			IC40	>100	N/A	N/A	<1					
	<u> </u>		IC50	>100	N/A	N/A	<1					
Cell Density S	iummary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std I	Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.99E+		2.18E+6	1.61E+6	2.72E+	6 9.111	E+4	4.99E+5	25.1%	0.0%
6.25		4	3.14E+	6 2.99E+6	3.28E+6	2.61E+6	3.51E+	6 7.12	E+4	3.90E+5	12.4%	-57.5%
12.5		4	2.98E+	6 2.87E+6	3.09E+6	2.66E+6	3.38E+	6 5.56	E+4	3.05E+5	10.2%	-49.7%
25		4	2.75E+		2.83E+6	2.58E+6	3.05E+	6 3.77	E+4	2.06E+5	7.51%	-38.2%
50		4	2.01E+	6 1.63E+6	2.39E+6	1.22E+6	3.51E+	6 1.86	E+5	1.02E+6	50.7%	-1.13%
100		4	2.01E+	6 1.83E+6	2.19E+6	1.52E+6	2.65E+	6 8.71	E+4	4.77E+5	23.8%	-0.88%
Cell Density D	etail											
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4							
0	Lab Water	1.61E+6	1.75E+	6 1.88E+6	2.72E+6							
6.25		2.61E+6	3.33E+	6 3.51E+6	3.09E+6							
12.5		2.86E+6	3.02E+	6 2.66E+6	3.38E+6							
25		2.70E+6	2.67E+	6 2.58E+6	3.05E+6							
50		1.22E+6	1.70E+	6 1.62E+6	3.51E+6							
50		1.22240	1.70ET	0 1.02570	3.512+0							

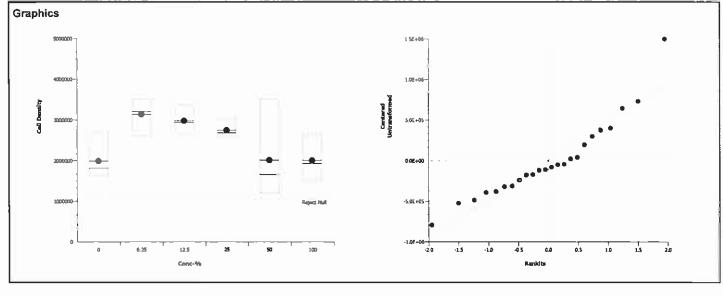
## **CETIS Analytical Report**

Report Date:

04 Sep-08 16:14 (p 1 of 1)

	<u> </u>	_				Test	Code:		14-4300-7476/294
Selenastrum (	Growth Test								Pacific EcoRis
Analysis No: Analyzed:		•	I Density ametric-Con	trol vs Trea	itments		S Version: ial Results		/1.6.5
Data Transfor	m Zeta	Alt Hyp	Monte Car	rlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run		100	>100	N/A	1	46.9%
Dunnett's Mul	Itiple Comparison Test	-	•						
Control	vs Conc-%	Test Stat	Critical	MSD	P-Value	Decision	5%)		
Lab Water	6.25	-2.95	2.41	933000	1.0000	Non-Signi	ficant Effec	:t	
	12.5	-2.55	2.41	933000	1.0000	Non-Signi	ficant Effec	:t	
	25	-1.96	2.41	933000	0.9990 Non-Significant Effect				
	50	-0.058	2.41	933000	0.8500	Non-Signi	ficant Effec	:t	
	100	-0.0451	2.41	933000	0.8460	Non-Signi	ficant Effec	at	
ANOVA Table									
Source	Sum Squares	Mean Squ	ıare	DF	F Stat	P-Value	Decision	(5%)	
Between	5.735333E+12	1.147067	E+12	5	3.81	0.0157	Significar	nt Effect	
Error	5.41425E+12	3.0079178	E+11	18					
Total	1.1149583057E+1	3 1.4478583	3071E+12	23					
ANOVA Assu	mptions	<del></del>			-				
Attribute	Test		Test Stat	Critical	P-Value	Decision	(1%)		
Variances	Bartlett Equality of	of Variance	8.07	15.1	0.1520	Equal Var	iances		<u> </u>
Distribution	Shapiro-Wilk Nor	mality	0.911		0.0379	Normal D	istribution		

Cell Density	Cell Density Summary														
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%				
0	Lab Water	4	1.99E+6	1.80E+6	2.18E+6	1.61E+6	2.72E+6	9.27E+4	4.99E+5	25.1%	0.0%				
6.25		4	3.14E+6	2.99E+6	3.28E+6	2.61E+6	3.51E+6	7.24E+4	3.90E+5	12.4%	-57.5%				
12.5		4	2.98E+6	2.86E+6	3.10E+6	2.66E+6	3.38E+6	5.66E+4	3.05E+5	10.2%	-49.7%				
25		4	2.75E+6	2.67E+6	2.83E+6	2.58E+6	3.05E+6	3.83E+4	2.06E+5	7.51%	-38.2%				
50		4	2.01E+6	1.62E+6	2.40E+6	1.22E+6	3.51E+6	1.89E+5	1.02E+6	50.7%	-1.13%				
100		4	2.01E+6	1.83E+6	2.19E+6	1.52E+6	2.65E+6	8.86E+4	4.77E+5	23.8%	-0.88%				



#### **CETIS Analytical Report**

Selenastrum Growth Test

IC50

>100

N/A

N/A

Analysis No: 15-4594-9589

Report Date:

04 Sep-08 16:14 (p 1 of 1)

14-4300-7476/29453

Test Code:

Pacific EcoRisk

Endpoint: Cell Density CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 16:14 Analysis: Linear Interpolation (ICPIN) Official Results: Yes

<1

Linear Interpol	ation Options			-	
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Met

X Transform	Y I ransform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	7607236	280	Yes	Two-Point Interpolation
					<u> </u>

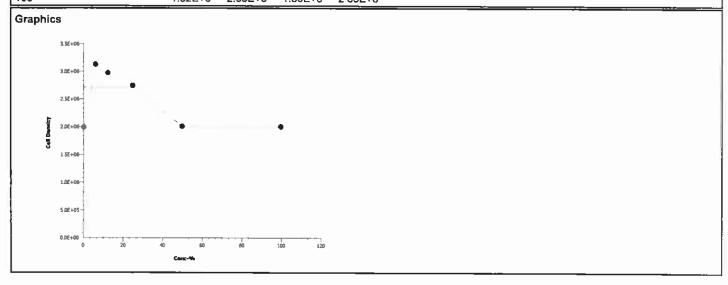
Point E	stimates					
Level	Conc-%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC2.5	27.4	11.5	70.8	3.65	1.41	8.68
IC5	29.8	18	76.7	3.35	1.3	5.54
IC10	34.7	24.1	95.1	2.88	1.05	4.15
IC15	39.5	28	N/A	2.53	N/A	3.57
IC20	44.3	30.5	N/A	2.25	N/A	3.28
IC25	49.2	33.2	N/A	2.03	N/A	3.02
IC40	>100	N/A	N/A	<1	N/A	N/A
	Level IC2.5 IC5 IC10 IC15 IC20 IC25	IC2.5 27.4 IC5 29.8 IC10 34.7 IC15 39.5 IC20 44.3 IC25 49.2	Level         Conc-%         95% LCL           IC2.5         27.4         11.5           IC5         29.8         18           IC10         34.7         24.1           IC15         39.5         28           IC20         44.3         30.5           IC25         49.2         33.2	Level         Conc-%         95% LCL         95% UCL           IC2.5         27.4         11.5         70.8           IC5         29.8         18         76.7           IC10         34.7         24.1         95.1           IC15         39.5         28         N/A           IC20         44.3         30.5         N/A           IC25         49.2         33.2         N/A	Level         Conc-%         95% LCL         95% UCL         TU           IC2.5         27.4         11.5         70.8         3.65           IC5         29.8         18         76.7         3.35           IC10         34.7         24.1         95.1         2.88           IC15         39.5         28         N/A         2.53           IC20         44.3         30.5         N/A         2.25           IC25         49.2         33.2         N/A         2.03	Level         Conc-%         95% LCL         95% UCL         TU         95% LCL           IC2.5         27.4         11.5         70.8         3.65         1.41           IC5         29.8         18         76.7         3.35         1.3           IC10         34.7         24.1         95.1         2.88         1.05           IC15         39.5         28         N/A         2.53         N/A           IC20         44.3         30.5         N/A         2.25         N/A           IC25         49.2         33.2         N/A         2.03         N/A

Cell Densi	ity Summary				Ca	lculated Va	riate		
Conc-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.99E+6	1.61E+6	2.72E+6	9.11E+4	4.99E+5	25.1%	0.0%
6.25		4	3.14E+6	2.61E+6	3.51E+6	7.12E+4	3.90E+5	12.4%	-57.5%
12.5		4	2.98E+6	2.66E+6	3.38E+6	5.56E+4	3.05E+5	10.2%	-49.7%
25		4	2.75E+6	2.58E+6	3.05E+6	3.77E+4	2.06E+5	7.51%	-38.2%
50		4	2.01E+6	1.22E+6	3.51E+6	1.86E+5	1.02E+6	50.7%	-1.13%
100		4	2.01E+6	1.52E+6	2.65E+6	8.71E+4	4.77E+5	23.8%	-0.88%

N/A

N/A

Cell Densi	ity Detail				
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Lab Water	1.61E+6	1.75E+6	1.88E+6	2.72E+6
6.25		2.61E+6	3.33E+6	3.51E+6	3.09E+6
12.5		2.86E+6	3.02E+6	2.66E+6	3.38E+6
25		2.70E+6	2.67E+6	2.58E+6	3.05E+6
50		1.22E+6	1.70E+6	1.62E+6	3.51E+6
100		1.52E+6	2.03E+6	1.83E+6	2 65F+6



## Selenastrum capricornutum Cell Density Enumeration Data

		C	ell Density (cells/ml)	( 10°)	
Treatment	Rep A	<b>Rep B</b>	Rep C	Rep D	Mean
Lab Water Control	1.61	1.75	1-88	2.72	1.99
6.25%	2.61	3.33	351	3.09	3.13
12,5%	2-86	3.02	2.66	3.38	2.98
25%	2.70	2-67	2.58	3.05	2.75
50%	1.22	1.70	1.62	3.51	2.01
100%	1.52	2.03	1-83	2.65	2.00
This datasheet has been reviewed for completeness and consistency with Test	Control Mean Density (cells/mL x 10 <sup>6</sup> )	% CV	Date:	Time:	Signoff:
Acceptability Criteria and/or other issues of concern.	1.99	25.1	8-5-08	1700	MB

# Selenastrum capricornutum Algal Toxicity Test Water Quality Data

Client: URS: DMC Test ID #: 29453 Test Date: 7/31/08

Test Material: NWDS-003-TOX-DUP Project #: 13489 Control/Diluent: Algal medium, W/O EDTA

Test Treatment	Temp (°C)	pН	D.O. (mg/L)	Conductivity (µS/cm)	Sign-Off
Lab Water Control	52.2	7.45	8.2	168	Date: 7/31/08
6.25% Sample	352	7.65	8.1	199	Sample ID: 20183
12.5% Sample	25.5	7,70	8.2	250	Test Solution Prep. QQ
25% Sample	25.5	7.77	8.3	361	New WQ: SL
50% Sample	25.5	4.81	8.3	525	Innoculation Time 11:45
100% Sample	25.5	7.92	8.4	899	Innoculation Signoff <b>K</b> 0
Meter ID:	15A	pH 03	D010	EL05	100
Lab Water Control	25.1	7.98			Date: 8.01.03
6.25% Sample	25.1	8.09			WQ Time: [200
12.5% Sample	25.1	8.17			WQ Signall: A)R
25% Sample	25.1	8.17			
50% Sample	25.1	8.16			
100% Sample	MB-125.1	8.36			
Meter ID:	31	P411			
Lab Water Control	24.7	8.70			Date: 8/2/18
6.25% Sample	24.7	8.97			WQ Time: 1020
12.5% Sample	24.7	9.11			WQ Signoff: 1474
25% Sample	24.7	8-95			
50% Sample	24.7	8.83			
100% Sample	24.7	8.70			
Meter ID:	41	PHOR			
Lab Water Control	24:9951	Na Stal			Date: 8/3/08
6.25% Sample	224.9251	P1.9769.99			WQTime: D945
12.5% Sample	2249 251	A 0150.91			WQ Signell: Ou
25% Sample	224,9251	929.84			
50% Sample	2249251	A 1598)			
100% Sample		191119.5	5		
Meter ID:	615A31	PHII			
Lab Water Control	74.7	10.50	1LY	157	Date 8/4/08
6.25% Sample	~4.7	16.29	10.4	2/3	Termination Time: 1345
12.5% Sample	24.7	10.37	10-9	264	Termination Signoff.
25% Sample	24.7	10.44	11.3	365	WQ Time: 0950
50% Sample	24.7	10-52	127	546	<sup>WQ Signed®</sup> <i>H ™</i>
100% Sample	24.7	14.33	12.9	823	
Meter ID:	41	PAPA	DO 16	8005	

Initial Test Conditions	Alkalinity	Hardness	Light Intensity (ftc)
	113	V 197	390

# **Appendix K**

Test Data and Summary of Statistics for the Evaluation of Ambient Water Toxicity to *Ceriodaphnia dubia* – Field Duplicate Toxicity Assessment

#### **CETIS Summary Report**

Report Date: Test Code: 04 Sep-08 17:09 (p 1 of 1) 05-3173-0283/29461

							10.	st Coue.		00 0110	020012011
Acute Cerioda	phnia Survival	Test								Paci	fic EcoRls
Test Run No: Start Date: Ending Date: Duration:	06-6695-7567 31 Jul-08 11:45 04 Aug-08 10:1 94h	5 :	Test Type: Protocol: Species: Source:	Survival (48h) EPA/821/R-02 Ceriodaphnia d In-House Cultu	dubia	- ·	Dil	uent: S ine: N	ohn Jirasritumr Spring Water Iot Applicable	ong	
	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	. ;	Code: Material: Source: Station:	NWDS-003 Ambient Wate URS NWDS	r	_			JRS 3489		
Comparison S	Summary	<u> </u>									
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Metho	d		
19-2963-4590	48h Survival Ra	ite	100	>100	N/A	5.0%	1	Steel N	lany-One Rank	Test	·
====== 48h Survival I	Rate Summary			<del></del>	_						,
Conc-%	Control Type	Count	t Mean	95% LCL	. 95% UCL	Min	Max	Std Er	r Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	. 1	1	1	0	0	0.0%	0.0%
48h Survival	Rate Detail			<u> </u>							
Conc-%	Control Type	Rep 1	Rep 2	2 Rep 3	Rep 4						
0	Lab Waler	1	1	1	1						
6.25		1	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Report Date:

04 Sep-08 17:08 (p 1 of 2)

Acute Ceriodaphnia Survival Test

Analysis No: 19-2963-4590 Endpoint: 48h Survival Rate
Analyzed: 04 Sep-08 17:08 Analysis: Nonparametric-Control vs Treatments

Test Code: 05-3173-0283/29461

CETIS Version: CETISv1.6.5

Official Results: Yes

Data Transform	n	Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Correc	cted)		C > T	Not Run		100	>100	N/A	1	5.0%
Steel Many-On	e Rank Test				_			_		
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision	(5%)		
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effec	t	
	12.5		18	10	1	0.8330	Non-Signi	ficant Effec	al .	
	25		18	10	1	0.8330	Non-Signi	ficant Effec	at .	
	50		18	10	1	0.8330	Non-Signi	ificant Effe	ct .	
	100		18	10	1	0.8330	Non-Signi	ficant Effe	ot	
ANOVA Table										
Source	Sum Squ	ares	Mean Squ	are	DF	F Stat	P-Value	Decision	1(5%)	
Between	0		0		5	65500	0.0000	Significa	nt Effect	
-					4.0					

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	5	65500	0.0000	Significant Effect
Error	0	0	18			
Total	0	0	23			

Attribute	Test			Test Stat	Critical	P-Value	Decisio	n(1%)					
Variances	Mod Lev	ene Equalit	y of Variance	65500	4.25	0.0000	Unequa						
48h Survival Rate Summary													
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%		
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%		
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%		
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%		
25		4	1	1	1	1	1	0	0	0.0%	0.0%		
50		4	1	1	1	1	1	0	0	0.0%	0.0%		
100		4	1	1	1	1	1	0	0	0.0%	0.0%		

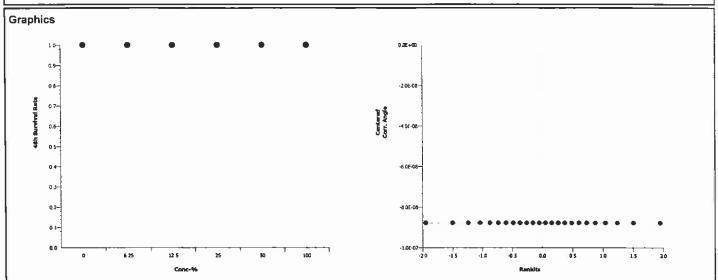
Angular (Corrected) Transformed Summary											
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
50		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
100		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%

04 Sep-08 17:08 (p 2 of 2) 05-3173-0283/29461

Acute Ceriodaphnia Survival Test

Analysis No: 19-2963-4590 EndpoInt: 48h Survival Rate CETIS Version: CETIS V1.6.5

Analyzed: 04 Sep-08 17:08 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



# 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:	U	RS: DMC		Test Date:	713108
Test Material:	NW	DS-003-TOX		Control/Diluent:	Conditioned 80:20
Test ID#:	29461	Project #	13489	Control Water Batch:	Tank
Randomization:	C.6.8		_		
Feeding T0	Time: Kgos	Initials: 71		Feeding T46-hr Time:	0830 Initials PC

Tuest	Temp	p	Н	D.	.O.	Conductivity	1	Live /	Animal	s	Sian Off
Treatment	(°C)	New	Old	New	Old	(µS/cm)	Α	В	С	D	Sign-Off
Control	20:0	8.28		8.8		256	5	5	5	5	Date: 7/31/08
6.25%	20.0	8,25	3307	8.8		295	5	5_	5	5	Sample ID:
12.5%	20.0	8.22	AL ST	8.9		340	5	5	5	5	Test Solution Prep:
25%	20,0	8.14		9.0	g m	404	5	5	5	5	New WQ: SL
50%	20.5	8.01	wa ili	9.3		550	5	5	5	5	Initiation Time:
100%	26.5	7,78	1000	9.8		826	5	5	5	5	Initiation Signoff:
Meter ID	47	PH II	Y.	DO 12		EC 04			Dausi		
Control	20.2	4.8	8.20		8.2	292	5	5	5	5	Date: 8/1/08
6.25%	20.2		816	1 9 1	8.6	305	5	5	5	5	Count Time: )030
12.5%	20.2		8.19		7.8	341	5	5	5	5	Count Signoff:
25%	20.2		8.19		7.8	412	5	3	5	5	Old WQ:
50%	20.2		8.70	Cold is	7.8	556	5	5	5	5	
100%	20.2		8.19		8.6	845	IJ	5	3	5	
Meter ID	47		Dho3		2014	Ewl		7.00			
Control	20.4	8.16	4 23	8.6	9.9	265	5	5	5	5	Date: 8/7/68
6.25%	204	8.12	9.64	8.4	4.7	302	S	5	5	5_	Sample ID: Z0180
12.5%	20.4	8.08	9.15	8.5	8.7	336	S <sup>i</sup>	5	5	5	Test Solution Prep:
25%	20 4	8.00	4.22	85	8.8	403	5	5	5	5	New WQ: JLR
50%	20.4	7.94	4-21	8.4	8.9	531	5	5	5	5	Count Time: 1515
100%	20.4	7.71	8.18	7.9	9.4	787	5	5	5	5	Count Signoff:
Meter ID	55	11 40	0 W57	DOLO	260	Ec05					Old WQ:
Control	20.2		845		9.9	288	5	5	5	5	Date: \$\\ \&\\ 3\\\ 10\\ \
6.25%	20.2		8.5 6		8.5	322	5	5	5	45	Count Time: / 0 450
12.5%	20.2		8.76	( w )	9.5	354	5	5	5	5	Count Signoff:
25%	20.2		915		9.9	426	5	5	S	5	Old WQ
50%	20.2		444		47	511	5	5	6	5	Mac
100%	20.2		9.78		877	285 205	5	5	5	5	
Meter ID	47	731.	1403 J	NA	100	rinks					
Control	20:2		4.31		86	2981	3	2	5	5	Date: 814108
6.25%	2012		533		8.6	343	2	2	2	5	Termination Time:
12.5%	20.2		4.32		9.7	374	5	5	5	5	Termination Signoff:
25%	20,2	45.00	16.33		960	447	5	5	5	5	Old WQ: MW
50%	2.12		8.32		807	566	5	5	5	5	
100%	20.2		4.31		8.6	864	5	5	5	5	
Meter ID	47		8403		210	Ecol	18				

#### **CETIS Summary Report**

 Report Date:
 04 Sep-08 17:12 (p 1 of 1)

 Test Code:
 16-9587-5185/29458

							10	at code.		10-3301	-3103/2340
Acute Cerioda	aphnia Survival	Test	_							Paci	ific EcoRis
Test Run No: Start Date: Ending Date: Duration:	tart Date: 31 Jul-08 11:30 Protocol: anding Date: 04 Aug-08 09:45 Species: gration: 94h Source: ample No: 00-0311-9157 Code: ample Date: 30 Jul-08 00:45 Material: acceive Date: 30 Jul-08 13:50 Source:		rotocol: pecies:	Survival (48h) EPA/821/R-02 Ceriodaphnia In-House Cult	dubia		Di Br	luent:	John Jirasritumi Spring Water Not Applicable 1	rong	
•			NWDS-003-DI Ambient Wate URS NWDS				Client: URS Project: 13489				
Comparison S	Summary										
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Metho	od		
07-5970-6014	48h Survival Ra	ate	100	>100	N/A	5.0%	1	Steel	Many-One Rank	Test	
48h Survival i	Rate Summary						_		<u>-</u>		
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
48h Survival I	Rate Detail										
Conc-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	1						
12.5		1	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						

Report Date:

04 Sep-08 17:12 (p 1 of 2)

Test Code:

16-9587-5185/29458

							1031	<del></del>		10 0001	0100/20100
Acute Ceriod	aphnia Survival	Test								Paci	fic EcoRisk
Analysis No:	07-5970-6014	Enc	point: 48h	Survival Ra	ite		CETI	S Version:	CETISv1.	.6.5	
Analyzed:	04 Sep-08 17:			parametric-		reatments		ial Results:	Yes		
Data Transfo		Zeta	Alt Hyp	Monte Ca	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corre	ected)		C > T	Not Run		100	>100	N/A	1	5.0%	
Steel Many-C	ne Rank Test					-			-		
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25	-	18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		18	10	1	0.8330	Non-Signi	ficant Effect			
ANOVA Table	9								<u>-</u>		
Source	Sum Sq	Jares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0		0		5	65500	0.0000	Significant	Effect		
Error	0		0		18						
Total	0		0		23						
ANOVA Assu	ımptions										
Attribute	Test			Test Stat	Critical	P-Value	Decision(	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance	65500	4.25	0.0000	Unequal \	/ariances			
48h Survival	Rate Summary	-									
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
		<u> </u>	<u> </u>		<u>'</u>	<u>'</u>	<u> </u>			0.070	0.070
	rected) Transfo		-								
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
6.25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
12.5		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
25		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
50		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%
100		4	1.35	1.35	1.35	1.35	1.35	0	0	0.0%	0.0%

## **CETIS Analytical Report**

Report Date: Test Code: 04 Sep-08 17:12 (p 2 of 2)

16-9587-5185/29458

Acute Ceriodaphnia Survival Test Pacific EcoRisk Analysis No: 07-5970-6014 Endpoint: 48h Survival Rate CETIS Version: CETISv1.6.5 Analyzed: 04 Sep-08 17:11 Nonparametric-Control vs Treatments Analysis: Official Results: Yes Graphics 09 -2.0E-08-0.8 -4.0E-08-0.5--6.0E-08-0.2--8.9E-08-0 1--1.0 £.25 12.5 100 0.0 Conc-% Rankitu

Feeding To Time: <u>69:80</u> Initials: <u>Y/C</u>

Feeding T46-hr Time: D830 Initials 1PC

## 96 Hour Acute Ceriodaphnia dubia Toxicity Test Data

Client:	_	URS: DMC		Test Date: 7/31/08					
Test Material:	NW	DS-003-TOX-L	UP	Control/Diluent:	Conditioned 80:20				
Test ID#:	29458	Project #	13489	Control Water Batch:	Tank#1				
Randomization:	C.6.4								

Tenatement	Treatment Temp pH		D	.0.	Conductivity	i	# Live /	Animal.	S	Sign-Off	
i realment	(°C)	New	Old	New	Old	(μS/cm)	Α	В	C	D	
Control	20-1	8.22		10.0		271	5	5	5	5	Date: 7/31/08
6.25%	20.1	8.18		10,1		3/6	5	5	5	-5	Sample ID:
12.5%	1.05	8.15	TE LE	10.1		336	5	5	5	5	l'est Solution Prep:
25%	20.1	8,07		10,2		409	5	5	5	5	New WO:SK
50%	20.1	7.96		9.6		538	5_	5	5	5	Initiation Time: パ <sup>ゅ</sup> うの
100%	20.1	7.80		9.3		788	5	5	5	5	Initiation Signoff:
Meter ID	47	PHII		DO 12		EC04					
Control	20.2		8.18		8. le	261	5	5	5	5	Date: 8 1/08
6.25%	20.2		8,10		8.5	301	5	3	5	5	Count Time: 1030
12.5%	20.2		8,22		8,6	332	9	5	5	5	Count Signoff:
25%	1000		8.21		8.6	40,0	5	5	5	5	Old MO: DW.
50%	20.2		8.27		8.5	549	5	5	5	5	
100%	20.2		8.17		8.4	769	5	5	5	5	
Meter ID	47		PH03		D014	ECOI			N. J.		
Control	20.4	4.21	8.03	9.2	473	V 756	5	5	5	5	Date: 8/2/08
6.25%	20.4	4.13	8.09	9.1	7.8	246	5	5	5	5	Sample ID: 20/83
12.5%	20.4	9.09	8.12	90	7.7	324	5	. 5	5	5	Test Solution Prep:
25%	20.4	7. 94	8-11	9,9	7.6	392	5	5	5	5	New WQ: New V
50%	20.4	7.45	8.11	8.7	7.7	529	5	5	5	5	Count Time: 600
100%	20.4	7,74	8.07	4.0	7.6.	427	5	ς	5	5	Count Signoff:
Meter ID	55	0 H03	ph 11	poll	BHRCY	<b>Viou</b>					Old WQ: AT
Control	20,2		8128		8.6	- 0 -	5	2	5	5	Date: 813108
6.25%	20:2		8.31		9,0	374	5	5	5	2	Count Time:
12.5%	20.2		8.32		8.7	414	5	5	5	5	Count Signoff:
25%	20.7		8.32		8.7	400	5	5	5	5	Old WO: SC
50%	20,2		8,32		8.8	558	5	5	5	5	- Williams of the state of the
100%	20.2		8.32		8.6	805	5	5	5	5	
Meter ID	22		ph03		0012	ELOA					
Control	20.7		8.33		8.8	291	5	5	5	5	Date: 814 108
6.25%	20,2		832		8.7	316	S	5	5	5	Termination Time:
12.5%	20.2		8.30		8.8	362	2	2	5	5	Termination Signoff:
25%	22		8.33		8.7	453	5	S	5	5	Old WQ: AS
50%	20.2		8.31		8.7	613	5	5	5	5	
100%	20.7		8.27		8.6	927	5	5	5	5	
Meter ID	47		IIHa		10014	£ 04					\$11-14-41-41-41-41-41-41-41-41-41-41-41-4

# **Appendix** L

Test Data and Summary of Statistics for the Evaluation of Ambient Water Toxicity to Fathead Minnows – Field Duplicate Toxicity Assessment

Report Date:

04 Sep-08 17:43 (p 1 of 1)

Test Code:

05-2823-1789/29470

								ssi Coue.			03-2023	-11031234
Acute Fish Su	rvival Test		•				•				Pacif	ic EcoRis
Fest Run No: Start Date: Ending Date: Duration:	02-8510-4975 31 Jul-08 12:15 04 Aug-08 10:3 94h	0 :	Test Type: Protocol: Species: Source:	Survival (96h) EPA/821/R-02 Pimephales pr Sticklebacks L	omelas		D B	nalyst: iluent: rine: ge:	Labo	Jirasritumr oratory Wate Applicable	•	
Sample No: Sample Date: Receive Date: Sample Age:	01-3232-9006 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	i [	Code: Material: Source: Station:	NWDS-003 Ambient Wate URS NWDS	r			lient: roject:	URS 1348			
Comparison S	Summary											
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	nod			
11-8975-5860	96h Survival Ra	ate	100	>100	N/A	4.57%	1	Stee	l Man	y-One Rank	Test	<u>-</u> -
96h Survival F	Rate Summary						-					
Conc-%	Control Type	Count	t Mean	95% LCL	95% UCL	Min	Max	Std	Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0		0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00	913	0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0		0	0.0%	0.0%
25		4	1	1	1	1	1	0		0	0.0%	0.0%
50		4	1	1	1	1	1	0		0	0.0%	0.0%
100		4	1	1	1	1	1	0		_0	0.0%	0.0%
96h Survival f	Rate Detail											
Conc-%	Control Type	Rep 1	Rep :	2 Rep 3	Rep 4							
0	Lab Water	1	1	1	1							
6.25		1	0.9	1	1							
12.5		1	1	1	1							
25		1	1	1	1							
50		1	1	1	1							
100		1	1	1	1							

04 Sep-08 17:43 (p 1 of 2)

05-2823-1789/29470

							1621	Code.		00-2623	-1709/29470
Acute Fish S	urvival Test									Pacif	ic EcoRisk
Analysis No:	11-8975-5860	Ene	dpoint: 96h	Survival Ra	te		CETI	S Version:	CETISv1.	6.5	
Analyzed:	04 Sep-08 17:			parametric-		reatments		ial Results:			
						-					
Data Transfo	rm	Zeta	Alt Hyp	Monte Car	rlo	NOEL	LOEL	TOEL	TU	PMSD	
Angular (Corr	ected)		C > T	Nol Run		100	>100	N/A	1	4.57%	
Steel Many-C	ne Rank Test							_			
Control	vs Conc-%		Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		16	10	1	0.6100	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
	25		18	10	1	0.8330	Non-Signi	ficant Effect			
	50		18	10	1	0.8330		ficant Effect			
	100		18	10	1	0.8330	_	ficant Effect			
ANOVA Table	e					<del></del>					
Source	Sum Squ	ıares	Mean Squ	ıare	DF	F Stat	P-Value	Decision(	5%)		
Between	0.005533	194	0.0011066	39	5	1	0.4460	Non-Signifi	cant Effect		
Error	0.019919	5	0.0011066	39	18			_			
Total	0.025452	69206166	0.0022132	7762119	23						
ANOVA Assu	ımptions										
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Lev	ene Equalit	y of Variance	1	4.25	0.4460	Equal Var	iances			
Distribution	Shapiro-	Wilk Norma	ality	0.463		0.0000	Non-norm	al Distributio	n		
96h Survival	Rate Summary			-							
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	0.975	0.956	0.994	0.9	1	0.00928	0.05	5.13%	2.5%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	1	1	1	1	1	0	0	0.0%	0.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
Angular (Co	rrected) Transfo	rmed Sum	marv								
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
6.25	2	4	1.37	1.34	1.4	1.25	1.41	0.0151	0.0815	5.94%	2.89%
12.5		4	1.41	1.41	1.41	1.41	1.41	0.0131	0.0015	0.0%	0.0%
25		4	1,41	1.41	1.41	1,41	1.41	0	0		
50		4	1.41	1.41				-		0.0%	0.0%
					1,41	1.41	1.41	0	0	0.0%	0.0%
100		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%

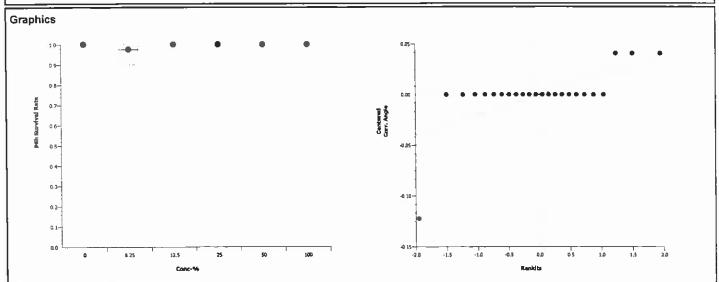
#### **CETIS Analytical Report**

Report Date: Test Code: 04 Sep-08 17:43 (p 2 of 2) 05-2823-1789/29470

Acute Fish Survival Test

Analysis No: 11-8975-5860 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5

Analyzed: 04 Sep-08 17:43 Analysis: Nonparametric-Control vs Treatments Official Results: Yes



## 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #: 404) Age: 13 days
Test Material:	NWDS-003-TOX	Organism Supplier: Stick Chacks
Test ID#:	29470 Project # 13489	Control/Diluent: EPAMH
Test Date:		Control Water Batch:
Feeding To	Time: 1130 Initials:	Feeding T46-hr Time: 0830 Initials JPC

Tuestant	Temp	P	Н	D.O.	(mg/L)	Conductivity (µS/cm)			# Live O	rganisms		
Treatment	(°C)	new	old.	new.	old	new	old	Rep A	Rep B	Rep C	Rep D	SIGN-OFF
Control	20.0	8.21		9.0	THE STATE OF	278	/ Factor	10	10	10	10	Date: 7131108
6.25%	20.0	8.13		9.0	1311	314		10	10	10	10	Sample ID:
12.5%	20.0	8.06		8.8		344		10	10	10	10	Test Solution Prep;
25%	20.0	7.96		8.8	TENE !	409		10	10	10	10	New WQ:
50%	20.	7.84		9.1	dug:	545		10	10	10	10	Initiation Time:
100%	20.0	7.68	200	9.0	1 3	819	0.1.	10	10	10	10	Initiation Sign-off:
Meter ID:	47	PH 11		DO12		6:04			ALE S		E GATTE	
Control	20.2		7.85	Salta	7.2		285	10	(0	lo	10	Date: 8/1/08
6.25%	20.2	(E)(S)	7.91		7.0	S AU III	314	10	11	10	10	Count Time: 4450 COunt Signoff:
12.5%	70.2		796	3131	7.1		354	10	10	/0	10	Count Signoff:
25%	20.2		7.98		7-1		421	10	10	10	10	Old WQ: JPC
50%	20.2		8.07		6.9		555	10	10	10	10	
100%	20.2	Smith.	8.11		6.9	- No.	815	10	10	10	10	
Meter ID:	47		POHO	STATE	DOIZ	(-(1))	ELOY		WYEETS.	THE WE		
Control	202	4.17	7.44	8,8	4.6	7.49	240	10	10	W	10	Date: 8/2/08
6.25%	2012	4.07	7.90	ail	9.9	307	318	10	9	10	10	Sample ID: 20180
12.5%	20.2	6.52	2099	9.0	9.9	778	355	10	10	10	10	Test Solution Prep: 3PL
25%	20.2	4.90	7.44	0,0	8.7	408	423	10	W	10	10	New WO: 11
50%	20.2	779	7-99	0.1	6.6	543	555	10	10	10	10	Renewal Tyme: 1220
100%	2012	7.66	100	47	8.6	804	820	lo	10	10	10	Renewal Signoff: K
Meter ID:	47	PHO"	0403	DOT	2100	E004 1	204		Michigan	(3 M 1/4	170 M	Old WQ // MA
Control	20.	UEI,U	7.88	QL II	8.4		278	סו	10	10	10	Date: 18/03/08
6.25%	20-1	EXX	7.96		8.5		312	10	9	10	10	Count Time: 0925
12.5%	201		7.90		8.3		345	01	10	10	10	Count Signolf: QV
25%	20.1		7.98	July 3	8.3	12 102	413	10	10	10	10	Old WQ: SL
50%	20.1		8.04	437	8.3		550	10	10	10	10	
100%	20.1		8.11	WE	8.1		813	10	10	lo	10	
Meter ID:	47		0403		D012	(1813	EAA	LI LIGHT			enio d	
Control	20.2		6.27		86		296 170	10	lo	10	10	Date: 8/4/08
6.25%	20,2		8.09	78.	8. Y	100	323	10	9	10	10	Termination Time:
12.5%	20.2		6.04		8.5		361	10	10	10	16	Termination Signoff:
25%	20.2		8.00	771	8.5	100 05	432	10	16	10	16	Old WQ: HTA
50%	20.2		8.06	Tracker	8.3	10.000	574	ID	10	· lu	10	
100%	20.2		8.02		82		860	10	10	10	15	,
Meter ID:	47		CHUA	0.285	Polo		573	1		BURNE	L.D	

Report Date: Test C

04 Sep-08 17:40 (p 1 of 1)

	Pacific EcoRisk
Code:	13-0650-0086/29467
it Date.	5 1 Q 5 P 5 5 11 11 (P 1 5 1 1)

							I est	Code:		13-0650	-0086/2946
Acute Fish Su	rvival Test	-								Pacif	ic EcoRisk
Test Run No: Start Date: Ending Date: Duration:	05-5703-6856 31 Jul-08 11:35 04 Aug-08 09:55 94h	Pı S SI	est Type: rotocol: pecies: ource:	Survival (96h) EPA/821/R-02-I Pimephales pro Sticklebacks Ur	melas		Ana Dilu Brin Age	ent: ie:	John Jirasritum Laboratory Wal Not Applicable 14	_	
-	00-0311-9157 30 Jul-08 00:45 30 Jul-08 13:50 35h (5 °C)	M S	ode: aterial: ource: tation:	NWDS-003-DU Ambient Water URS NWDS	P		Clie Proj		URS 13489		
Comparison S	Summary										
Analysis No	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Meth	od		
03-4007-9828	3-4007-9828 96h Survival Rate 100			>100	N/A	5.9%	1	Steel Many-One Rank Test			
Point Estimate	e Summary										
Analysis No	Endpoint		Level	Conc-%	95% LCL	95% UCL	TU	Meth	od		
17-7223-1439	96h Survival Rat	te	EC2.5	37.2	N/A	N/A	2.69	Linea	r Regression (M	ILE)	
			EC10	166	N/A	N/A	0.601				
			EC15	286	N/A	N/A	0.35				
			EC20	440	N/A	N/A	0.227				
			EC25	636	N/A	N/A	0.157				
			EC40		N/A	N/A	0.0621				
			EC50	2820	N/A	N/A	0.0355				
96h Survival F	Rate Summary										
Conc-%_	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E		CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.95	0.928	0.972	0.9	1	0.010	5 0.0577	6.08%	5.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.925	0.906	0.944	0.9	1	0.009	13 0.05	5.41%	7.5%
96h Survival F	Rate Detail										
Conc-%	Control Type	Rep 1	Rep 2	2 Rep 3	Rep 4						
0	Lab Water	1	1	1	1						
6.25		1	1	1	1						
12.5		1	1	1	1						
25		0.9	1	1	0.9						
50		1	1	1	1						

Report Date:

04 Sep-08 17:40 (p 1 of 2)

Test Code:

13-0650-0086/29467

							lest	Code:		13-0050	-0086/2946
Acute Fish Su	urvival Test		_							Pacif	fic EcoRis
Analysis No: Analyzed:	-		-	point: 96h Survival Rate lysis: Nonparametric-Control vs Tre		reatments	CETIS Version: Official Results:		CETI\$v1	6.5	
Data Transfo	rm	Zeta	Alt Hyp	Monte Cai	rlo	NOEL	LOEL	TOEL	TU	PMSD	· ·
Angular (Corrected)			C > T	Not Run		100	>100	N/A	1	5.9%	
Steel Many-O	ne Rank Test					_					
Control	vs Conc-	6	Test Stat	Critical	Ties	P-Value	Decision(	5%)			
Lab Water	6.25		18	10	1	0.8330	Non-Signi	ficant Effect			
	12.5		18	10	1	0.8330	Non-Signi	ficant Effect			
	25		14	10	1	0.3450	Non-Signi	ficant Effect			
	50		18	10	1	0.8330	Non-Signi	ficant Effect			
	100		12	10	1	0.1420	Non-Signi				
ANOVA Table											<u> </u>
Source	Sum So	uares	Mean Squ	are	DF	F Stat	P-Value	Decision(	5%)		
Between	0.05865	186	0.0117303	7	5	4.54	0.0074	Significant	t Effect		
Error	0.04647	883	0.0025821	57	18						
Total	0.10513	0687356	0.0143125	0.01431252830662							
ANOVA Assu	mptions										•
Attribute	Test			Test Stat	Critical	P-Value	Decision	(1%)			
Variances	Mod Le	vene Equali	ty of Variance	4.2	4.25	0.0105	Equal Var	iances			
Distribution	Shapir	o-Wilk Norma	ality	0.772		0.0001	Non-norm	al Distributio	on		
96h Survival	Rate Summar	y									
Conc-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
0	Lab Water	4	1	1	1	1	1	0	0	0.0%	0.0%
6.25		4	1	1	1	1	1	0	0	0.0%	0.0%
12.5		4	1	1	1	1	1	0	0	0.0%	0.0%
25		4	0.95	0.928	0.972	0.9	1	0.0107	0.0577	6.08%	5.0%
50		4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.925	0.906	0.944	0.9	1	0.00928	0.05	5.41%	7.5%
Angular (Cor	rected) Transf	ormed Surr	ımary	<del></del>	•		<del></del>				
Conc-%	Control Type		Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
ó	Lab Water	4	1.41	1,41	1.41	1.41	1.41	0	0	0.0%	0.0%
6.25		4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
12.5		4	1,41	1.41	1.41	1.41	1.41	0	0	0.0%	0.0%
25		4	1.33	1.29	1.37	1.25	1.41	0.0175	0.0941	7.07%	5.77%
50		4	1.41	1.41	1.41	1.41	1.41	0.517.6	0	0.0%	0.0%
		4		1.26	1.32	1.25	1.41	0.0151	0.0815	6.32%	8.66%
100		4	1.29	1.40	1.34	1.23	1.41	0.0101	0.0010	0.32%	0.00%

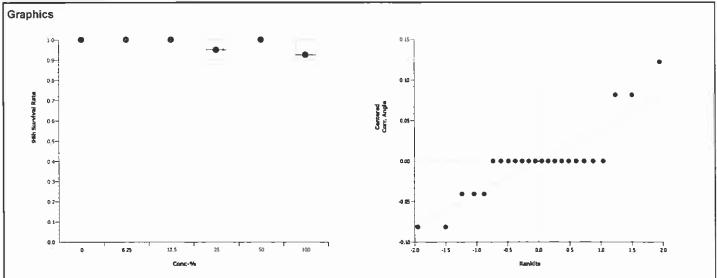
04 Sep-08 17:40 (p 2 of 2)

13-0650-0086/29467

Acute Fish Survival Test

Analysis No: 03-4007-9828 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:40 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

Graphics



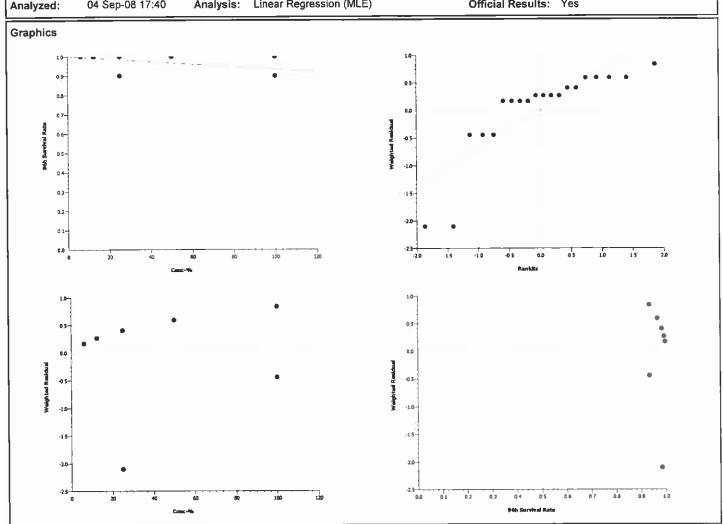
04 Sep-08 17:40 (p 1 of 2) 13-0650-0086/29467

								1621	Code:		10-0000	1-00001254
Acute F	ish Surviva	al Test									Paci	fic EcoRis
nalysi	No. 17.	7223-1439	Endr	oint 96h	Survival Ra	te .		CETI	S Version:	CETISv1	.6.5	
nalyze		Sep-08 17:4	-		ar Regressi				ial Results	Yes		
arary 20												
inear F	Regression	Options										
/lodel F	unction			Threshold	Option	Threshold	Optimized	Pooled	Het Corr	Weighted	i	
og-Nor	mal [NED=/	A+B*log(X)]		Control Th	reshold	0	Yes	No	No _	Yes		
Regres	sion Summ	nary										
ters	LL	AICc	Mu	Sigma	G Stat	Chi-Sq	Critical	P-Value	Decision	(5%)		
3	-21.3	47.4	1.34	0.959	1.18	12.3	28.9	0.8330	Non-Sign	ficant Heter	rogeneity	
oint E	stimates								-			
Level	Conc-%	95% LCL	95% UCL		TU	95% LCL	95% UCL					
EC2.5	37.2	N/A	N/A		2.69	N/A	N/A					
EC10	166	N/A	N/A		0.601	N/A	N/A					
EC15	286	N/A	N/A		0.35	N/A	N/A					
EC20	440	N/A	N/A		0.227	N/A	N/A					
EC25	636	N/A	N/A		0.157	N/A	N/A					
EC40	1610	N/A	N/A		0.0621	N/A	N/A					
EC50	2820	N/A	N/A		0.0355	N/A	N/A					
Regres	sion Paran	neters		<del></del>			<u>-                                      </u>					
- Parame	eter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision	(5%)		_	
Slope		1.04	0.578	-0.0897	2.18	1.8	0.0879	Non-Signi	ificant Para	meter		
Intercept 1.4 0.995 -0.548			3.35	1.41	0.1760	Non-Sign	ificant Para	meter				
Residu	al Analysis			<del></del>								
Attribu	te	Method			Test Stat	Critical	P-Value	Decision	(5%)			
Variances Mod Levene Equality of Variance			14.4	3.06	0,0001	Unequal \	Variances					
Distribu	ıtion	Shapiro-W	Vilk Normalit	у	0.725		0.0001	Non-norm	nal Distribut	ion		
96h Su	rvival Rate	Summary				Calcu	ılated Varia	te(A/B)				
Сопс-%	6 Cont	rol Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	Diff%	A	В
0		Vater	4	1	1	1	0	0	0.0%	0.0%	40	40
6.25			4	1	1	1	0	0	0.0%	0.0%	40	40
12.5			4	1	1	1	0	0	0.0%	0.0%	40	40
25			4	0.95	0.9	1	0.0105	0.0577	6.08%	5.0%	38	40
50			4	1	1	1	0	0	0.0%	0.0%	40	40
100			4	0.925	0.9	1	0.00913	0.05	5.41%	7.5%	37	40
96h St	ırvival Rate	Detail										
Conc-	% Conf	trol Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab	Water	1	1	1	1						
6.25			1	1	1	1						
12.5			1	1	1	1						
25			0.9	1	1	0.9						
50			1	1	1	1						
100			0.9	0.9	0.9	1						

04 Sep-08 17:40 (p 2 of 2) 13-0650-0086/29467

Acute Fish Survival Test

Analysis No: 17-7223-1439 Endpoint: 96h Survival Rate CETIS Version: CETISv1.6.5
Analyzed: 04 Sep-08 17:40 Analysis: Linear Regression (MLE) Official Results: Yes



## 96 Hour Acute Fathead Minnow Toxicity Test

Client:	URS: DMC	Organism Log #: 4046 Age: 14 days	
Test Material:	NWDS-003-TOX-DUP	Organism Supplier: Sticklebacks unitd.	
Test ID#:	29467 Project # 13489	Control/Diluent: EPAMH	_
Test Date:	7/30186 1/3/10 Randomization: 4.6.4	Control Water Batch: 1124	
7	Time: 0830 Initials: JPW	Feeding T46-br Time: D830 Initials JPC	

Treatment	Temp	pH D.O. i			(mg/L) Conductivity (pS/cm)				# Live O		SIGN-OFF	
Treatment	(°C)	new	old	new	old	new	old	Rep A	<b>Rep B</b>	Rep C	Rep D	
Control	19.7	8,35		9.9		284		10	10	10	10	Date: 7/3/168
6.25%	19.7	8.20		9.3		319		10	10	_10	10	Sample 10 20183
12.5%	19.7	8,10		9.3		345		10	10	10	10	Test Solution Prep:
25%	19.7	7.99		10.2		414		10	10	10	10	New WQ: Initiation Time:
50%	19.7	7.84		9.9	0.5	537		10	10	10	10	Initiation Time: 1135
100%	19.7	7.68		10.5		782		10	10	10	10	Imitation Sign-off: JPC
Meter ID:	55	PH II		00/2		E104						
Control	20.2		7.98		71	1000	276	10	10	10	10	Date: 8/1/08
6.25%	20,2		8.02		6.9	ALL LOCATION	309	[0	(0	10	10	Count Time: 495/6
12.5%	70.2		8.04		6.9		342	10	10	10	10	. 00
25%	20.2		8.05		70	11,	407	10	10	10	10	OHI MÓ: TSC
50%	.70,2		8.11		7.0		538	10	lo	10	10	THE REST OF STREET, ST
100%	20.2		8.18		69		787	(0)	10	10	10	
Meter ID:	47		POHO		D612		F-04	1000				
Control	20,1	447	74	94	- 0	240	240190	una 10	10	10	10	Date: 8 / 2 / 08 Sample ID: 00183
6.25%	20,1	7.48	775	4,0	8.5	304	312	10	10	10	10	Sample ID: 20183
12.5%	20.1	7-44	7.85	4,6	8.7	336	351	10	10	10	10	Test Solution Prep:
25%	20.	7.88	7.46	AS	100 COM	3918	414	9	10	10	10	New WQ:
50%	20.1	7.75	7.90	86	8.9	525	546	10	10	10	10	Renewal Time: /2.15
100%	20.1	7:56	8.04	48	3.5	770	747	10	9	9	10	Renewal Signolla
Meter ID:	55	1163	QH63	POIL	bur	EC04	EUN					Old WQ MA
Control	16:2		7.94		8.5		278	10	10	10	10	Date: \$17108
6.25%	20.2		2 94		8.4		212	10	10	10	10	Count Time 9530
12.5%	20.2		7.96		8.4		345	10	10	10	10	Count Signoff:)
25%	20.7		7.98		87		106	9	10	10	10	Old WQ: 5L
50%	20.2		8.01	Annine	8.3		535	10	10	ر ا	10	
100%	20.2		8,10	1 - 10	8.2		795	10	9	9	10	
Meter ID:	47		0h03		0012		ELDA					
Control	2012		19%	4	8.5N	la .	1333V	4/0	10	10	10	Date: 814168
6.25%	2012			^	8.5		233	10	10	10	10	Termination Time:
12.5%	20:2		7.99		8.5		357	10	10	10	10	Termination Signoff:
25%	2012		9.01		8.4		412	9	10	10	9	Old WQ: SL
50%	20.2		8.08		8,5		550	16	10	(0	10	
100%	20.2		9.16		83		811	9	9	9	10	
Meter ID:	47		H 03	211.1	0012		5001	-			110	